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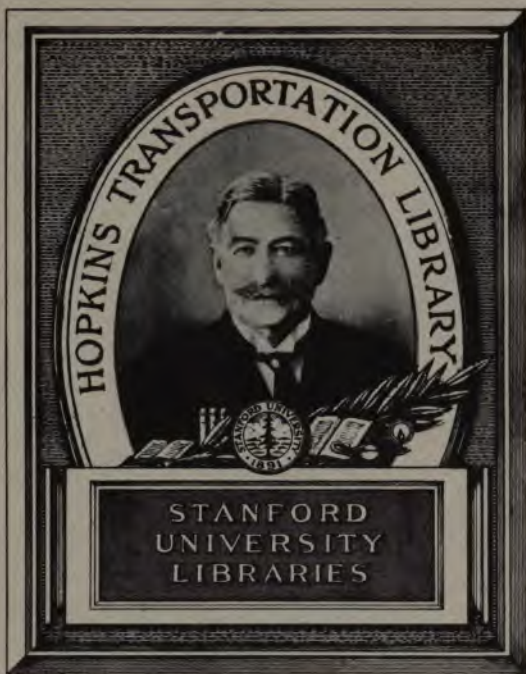


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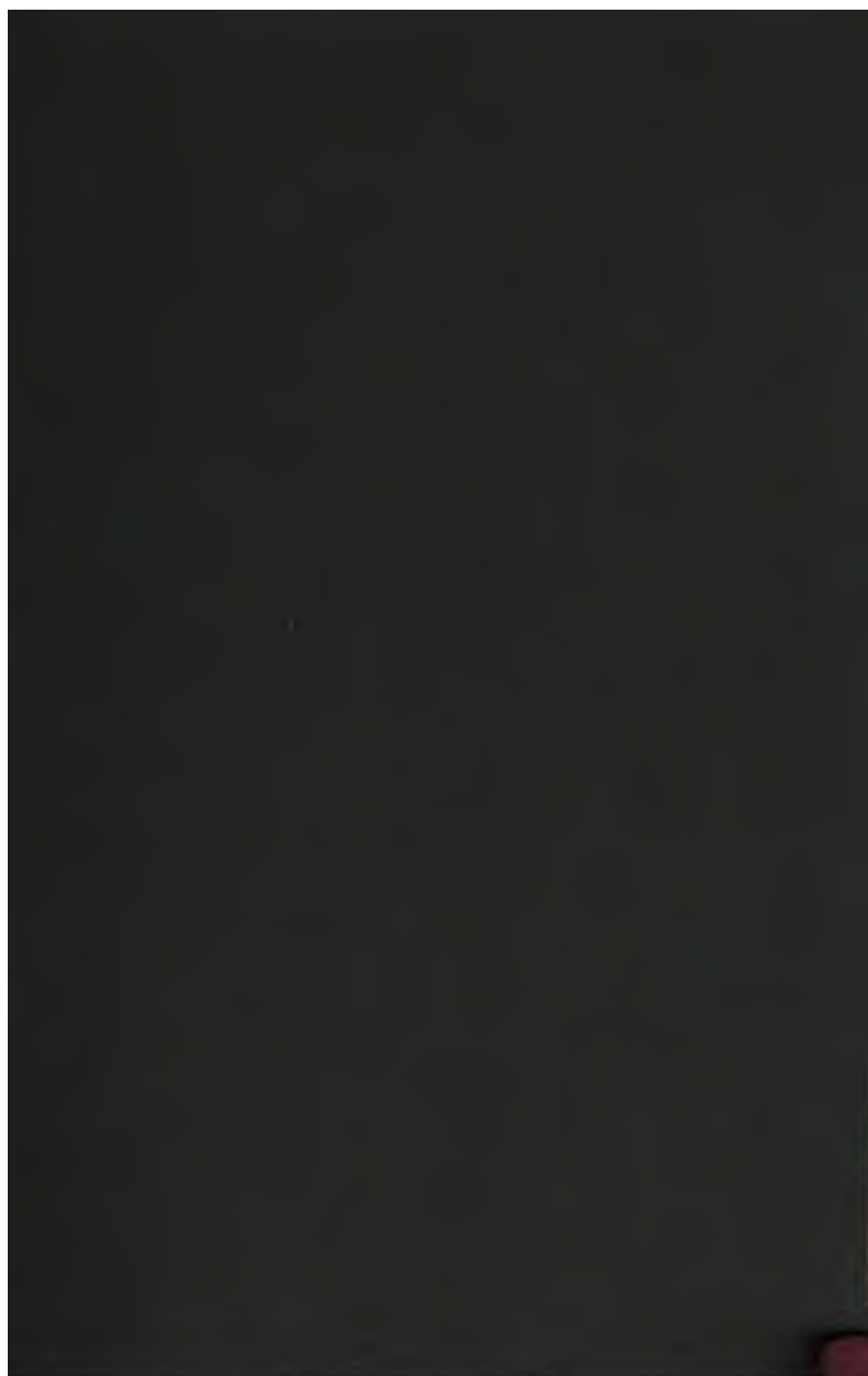
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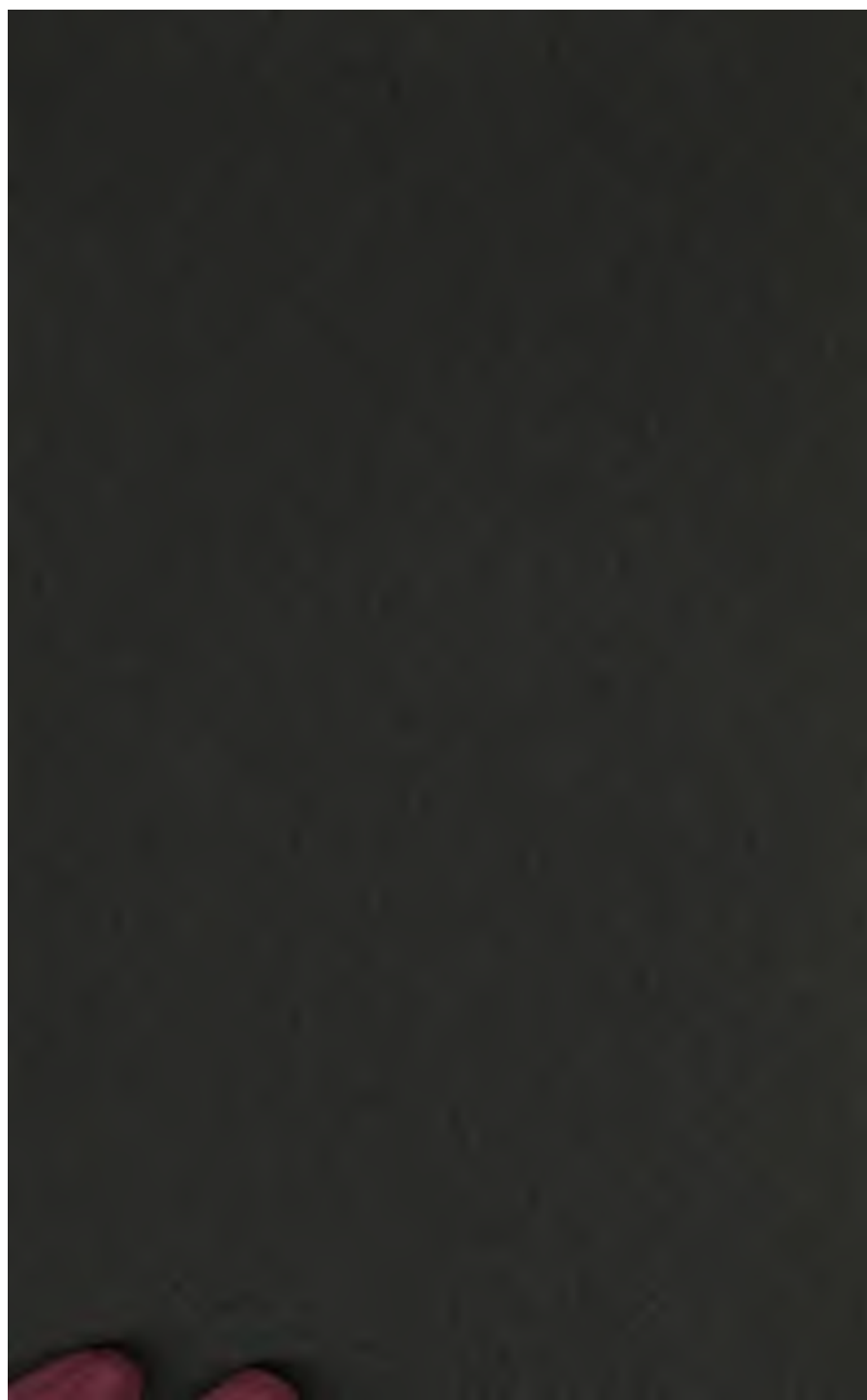
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GOVERNMENT PARTNERSHIP

IN

RAILROADS

BY

MARK WYMOND

AUTHOR OF

RAILROAD VALUATION AND RATES

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Chicago Journal Publishing Co.
Chicago

OUR TRANSPORTATION PROBLEM.

The railroad horse has been a faithful beast of burden for American commerce. He has pulled its commodities from the Atlantic over the Alleghenies in the east, across the fertile central prairies, the blistering plains and arid deserts of the west, over the Rockies, Sierras and Coast Range to the Pacific and through the great central Mississippi Valley from the Great Lakes and Canada to the Gulf. Heretofore he has never balked. When we have given him the word, he has always pulled, steadily and effectively, whether across bog and swamp or over steep hill and high mountain.

At times he has kicked over the traces at his driver, but at the word to go he has always pulled. At times he has been found in the public cornfield getting more than his allotted feed, but he has been charged with eating corn that in fact went to fatten the hogs of the Manufacturer, the Farmer, the Miner, the Packer and the Merchant. He has never been foundered by overfeeding.

He is a valuable animal, having cost us some 16 billion dollars. He requires the work of 1,800,000 Americans in maintaining and serving him. It costs us about 3½ billions of dollars a year to feed him. His welfare is therefore a matter of very great economic importance to us.

If for only a week or so he should refuse to pull we would freeze and starve in the big cities, our industrial plants would close, our lamps remain unlit at night, our street cars stop; we should have to confine our journeys to short distances. He is most essential to our social comfort and our business wel-

fare and it is very important therefore that he should continue to pull steadily and effectively.

He is faltering now for his spirit has been broken by the Politician and the Ignoramus who have beaten him unmercifully with the sticks of Political Trickery and Stupidity. We must look after our horse more carefully if we are to get our truck to market.

Railways are the arteries of commerce, the most important highways of the country. Whatever injures the business of transportation injures all business; serious injury to either brings disaster to all of the people.

Railroad business is the best index of the general business condition of the country. When business prospers railroads prosper. A decline in railroad revenue is the first intimation of a slackening in trade, an increase in railroad revenue the first indication of a revival of general prosperity.

Our transportation system commands the admiration of the whole world. Its development has been due to the initiative and ingenuity of our most forceful men. Self interest has compelled the railroads to meet and often anticipate in every practicable way the needs of business, so that its own business might develop.

Our people are primarily a business nation, energetic, nervous and insistent. They demand and have secured the best transportation in the world. It is dependable, safe, flexible and varied enough to meet the needs of both general and specialized lines of business. Heretofore its standards of service have advanced with the tremendous expansion of business and it has been a pioneer in extending into undeveloped territory for the purpose of creating new business.

The public has demanded low rates and we have the lowest rates in the world. It has demanded adequate facilities and our roads are by far the best equipped in the world. The securing of adequate facilities, and at the same time granting low rates, has taxed the ingenuity of railroad officials to the limit.

Lack of Facilities a Restraint of Trade.

Adequate facilities demand the expenditure of very large sums of money, in most cases. Low rates prevent the accumulation of a surplus to provide for these improvements and betterments and lessen the power of the roads to secure additional capital. In many instances we have reached the point where the granting of low rates precludes the possibility of securing the money needed for adequate facilities.

Without substantial additions to the facilities of existing railroads and extensions into territories having vast undeveloped resources, existing trade can not expand and potential possibilities of trade can not be realized. That is, the lack of needed facilities of transportation will bar the expansion of trade beyond its present volume. To guard against inadequate facilities and provide for the extension of railroads, they must be allowed such rates as will permit them to accumulate a surplus from their operation and establish a credit, so that necessary new capital may be obtained.

Our Transportation System Breaking Down.

It is now very generally conceded by those charged with the operation of our railroads and the informed public, that our transportation system is breaking down. The surplus of the railroads had very generally disappeared at the end of the fiscal

year, June 30, 1914, at the beginning of the European war. Twenty years ago the railroads were able to secure the money necessary to provide additional facilities at 4 and $4\frac{1}{2}\%$ interest. It is now difficult for even the strongest of our railroad companies to renew their loans or secure new ones. A large part of the loans made on bonds and notes are at rates varying from $5\frac{1}{2}$ to $7\frac{1}{2}\%$, only in exceptional cases can money be obtained at the old rate of 4%.

Evidently something is very seriously wrong with our railroad system as a whole and the solution of this transportation problem is the most important matter before the public at this time. The present prosperity of our railroads is temporary only and has been created solely by the abnormal conditions produced by the European war. The previous condition will obtain at the end of the war unless something is done in the meantime to remedy the trouble.

The trouble is evidently fundamental and the treatment must be drastic enough to remove the existing evil and comprehensive enough to meet all requirements of present business and anticipated expansion as well as of extensions to provide for the development of vast natural resources which have as yet been scarcely touched.

The railroads insist that the present situation has been brought about by the repressive policy of legislatures and regulating commissions. While there is doubtless some truth in this, it is probable that the trouble has not resulted so much from a deliberate punitive public policy as from a failure to adjust our regulation to a changing commercial and financial condition.

There are some who contend that the railroads' difficulties are due to dishonesty and inefficiency. As a matter of fact, the transportation business of

the country, as a whole, in the past ten years has been conducted on a high moral plane and in a manner as efficient as that of any business in the country. There are of course notable exceptions to this statement of general conditions in transportation, just as there are in all lines of business and in all humanly-conducted affairs.

There is much misapprehension as to transportation matters and we must rid ourselves of them and be prepared to base our solution on the actual facts which thorough investigation will develop.

Ours is a business nation and when the public interest is aroused we may always rely on the common sense and fairness of the public in dealing with business relations. The public interest demands primarily that the railroads be prosperous in order that they may serve it efficiently.

Geographical and Political Complications.

Our problem is somewhat more complicated than that of foreign countries on account of our geography and political organization. The larger part of our population and our national resources are located inland and at great distances from water transportation so that the railroads are absolutely indispensable to any considerable commerce and in consequence railroad transportation is closely allied with the business prosperity of the whole nation.

In this fact lies the necessity for government regulation of railroad rates and practices. Neither the railroad owners nor the public realized it for some time, but regulation was inevitable from the beginning, as there can be no commercial or industrial independence under the conditions in our country with unregulated railroad transportation.

It must be remembered that this regulation of railroads is absolutely essential without regard to who owns the railroads, whether government or private individuals. This fact has generally been lost sight of in the discussion of our railroad problem, although it has a most important bearing on it. Those who have urged government ownership as a remedy for the evils of government regulation of privately owned railroads, have failed to perceive that government regulation is just as essential under one form of ownership as the other.

The political complication arises from the fact that we have a Federal government with very large powers delegated to it by the Constitution and 48 separate states with certain inherent rights. Even our smaller systems traverse two or more states and our important systems many more. In consequence, even the smaller roads have at least three bodies regulating their rates and practices, each of which is entirely independent of the other. It is too much to expect that regulation should be uniform or obtain the best results under such conditions and events have demonstrated the truth of the biblical statement that no man can serve two masters.

Provision for Expansion, Extensions and Non-productive Improvements.

Fair regulation must not only provide that the public is served efficiently and that the owners of the railroads are fairly compensated, but it must also take into account the necessity for extension into territories at present undeveloped. That is, it must provide for pioneering by the railroads, if we are to develop our natural resources properly.

We seemed to have assumed that our transportation system is adequate for present and future

needs. This is particularly the feeling in that portion of the country lying in and east of the Mississippi Valley. As a matter of fact there are vast areas lying west of this valley containing great natural resources which are urgently in need of transportation and thousands of miles of railroad must be constructed if they are to be properly developed.

Neither is the eastern portion of the country amply provided with transportation, as there are still many districts which, though smaller in area than those just mentioned, are still important and needing a very considerable additional mileage of railroads to develop their resources.

A railroad is never finished so long as it serves a progressive business people. As a territory develops commercially and industrially, transportation facilities must be improved and their capacity increased. Increasing density of traffic requires an increased number of trains to move it. Increased traffic density is caused by increased population density. These two factors acting together make railroad operation dangerous to the public using the streets of the cities and highways of the country and the safety of the public demands in many instances the separation of the grades of the streets and highways from that of the railroad. The construction required for the abolition of grade crossings produces no additional revenue to pay the interest charge on its cost.

Growing cities demand new and larger passenger stations and many additional facilities in connection with them. The operation of steam locomotives through congested city areas must in some cases be abandoned and electric traction substituted for it. These too are unproductive improvements which pro-

duce no additional revenue to meet the increased interest charges on the cost of their construction.

Fair regulation must provide revenues for meeting expenditures incurred in connection with all non-revenue producing improvements.

Elements of Problem Summarized.

In order to consider our transportation problem intelligently let us state here some of the fundamental facts concerning it:

Railroads, being the arteries of commerce, are the most important highways of the country and are indispensable to our social welfare and business prosperity.

It follows from this that government regulation of railroad rates and practices is essential to our social and commercial independence.

Such regulation must secure for the public reasonable rates and fair practices in the movement of commerce and the traveling public.

At the same time, it must protect the rights of private property invested in railroads, assuring to it a fair return on its investment.

The present railroads must be properly equipped and maintained to render efficient public service; regulation must provide rates that will produce a revenue sufficient to meet this cost of maintenance and equipment.

As the capacity of transportation facilities marks the limitations of commerce, present facilities must be enlarged and improved to provide for expanding business.

The proper development of our natural resources requires the extension of existing railroads into undeveloped areas which necessitates the construction of thousands of miles of new railroads.

Increasing the capacity of present facilities and constructing the thousands of miles of railroad required for development of new business, requires that the railroads obtain an immense amount of new capital.

As the public must pay all of the bills incident to transportation, it is vitally interested in the railroads being able to secure the new capital required at reasonable rates of interest. It follows from this that the public's interest in regulation demands that it be so applied that the financial standing of the railroads shall be high in the money markets of the world so that its interest rate be low.

As the public pays all of the bills, it is interested in having all new capital secured for railroad purposes properly expended. Government regulation should see to it that such capital is properly applied and economically expended.

In the construction of new railroads as mentioned above, duplication of existing facilities should be prohibited. As rates are now fixed by government regulation, rather than competition, duplication of facilities imposes an additional public burden with no compensating public benefit.

As the purpose of this treatise is constructive suggestion, let us examine present conditions to ascertain in what particulars they are unsatisfactory and in what way they obstruct the accomplishment of what is desired. The investigation will be made to determine what defects and evils exist, first, in the present form of railroad regulation by government and, second, in the administration of the railroads by their officials. Such investigation should assist us in devising new measures to improve present unsatisfactory conditions.

THE SINS OF REGULATION

Interstate Commerce Act.

In the words of a decision of the United States Supreme Court, the Interstate Commerce Act was designed "to cut up by the roots the entire system of rebates and discriminations in favor of particular localities, special enterprises or favored corporations and to put all shippers on an absolute equality."

The act created the Interstate Commerce Commission and charged it with:

Acting primarily as referee between the public and the railroads, preventing discriminations in their rates and services.

Seeing that rates were reasonable.

Securing publicity of rates.

Prescribing uniform railroad reports.

This gave the Commission limited but well defined powers. Subsequently its control of railroad operation and rates has been largely increased, extending to matters of railroad administration.

In a letter written to President Wilson, in 1914, Charles Francis Adams, an Ex-President of the Union Pacific Railway and an Ex-Railway Commissioner of the State of Massachusetts, expressed his opinion of the practical workings of this act to regulate commerce, as follows:

"Forty years ago I had much to do with the origin and early development of the Railroad Commission. A pioneer, I am free to say I had little realizing sense of what was finally to result from the movement then initiated; nor has the course of development altogether commended itself to my judgment. In connection with our form of government, I still

question in many respects its wisdom or its practical results."

The act has not produced all of the good results that its sponsors had hoped for. It was, in the beginning, a crude effort to relieve a situation that had become unbearable for both the public and the railroads. The principal fault has been that subsequent legislation has not kept it adjusted to changing social, commercial and industrial conditions. As a step ahead of the previous condition, and as a part of a scheme for evolving intelligent regulation, its benefits can not be doubted. It at least acknowledged the national character of the railroad problem.

National Character of Railroads.

The railroads have long since outgrown local lines. The power to regulate them properly must be indivisible. Mr. Madison in the Constitutional Convention said "the regulation of commerce is in its nature indivisible and ought to be wholly under one authority." Transportation is so essentially a part of commerce that the same holds true of it.

The local view is too narrow, a broader view is essential to an understanding and treatment of modern railroad problems. Further, the general public has a much larger interest in railroads than that of any state or of all the states, based on their intrastate business alone. Perhaps 75% of total railroad business is interstate and foreign and only 25% intrastate. For that reason, in the case of large systems which cross many states, the intrastate business of any particular state is but a small portion of the whole traffic.

A recent accurate investigation, made to determine the amounts of interstate and intrastate traffic respectively, showed that on the Pittsburgh, Ft.

Wayne & Chicago lines of the Pennsylvania System only 7% of the total business carried by the lines in the State of Indiana was intrastate; in Ohio, it was less than 10%.

Evils of State Regulation.

The most serious single grievance of the railroads, as to regulation, arises from the fact that in addition to the enactments of state legislatures, they are under the control in varying degree, of 43 state regulating commissions. In a majority of such states the Commissioners are chosen by popular vote and hence are subject to local pressure exerted for selfish local interest. Further, the salaries attaching to the positions, in many instances, are too small—in some cases \$1,500 per year—to attract men of the caliber desirable in positions of such great importance.

Under a proper conception of the duties of commissioners, they are referees between the public and the railroads. Depending entirely on the pleasure of the public for their tenure of office on the one hand, and dealing usually with what is regarded as a foreign corporation on the other, it is not surprising that a majority of these commissioners regard too lightly their duties as referee and lean too strongly to local selfish interest, with its consequent injustice to the rights of the railroads and the general public of the whole country.

If the evils of state regulation could be confined to the intrastate traffic, the net effect on the public and the railroads might be so small, when compared to the much larger interstate business, as to be negligible. Unfortunately this is not possible.

Rate Discriminations Through State Regulation.

All traffic, foreign, interstate and intrastate is inter-related.

State rates affect interstate rates. A rate between two points situated within a single state affects the rates between two points situated in different states. This has very often resulted in rate discriminations quite as flagrant as any that existed prior to the general adoption of government regulation of rates.

A few instances will serve to show how discriminations have resulted from state regulation:

(a) The Interstate Commerce Commission has established a rate on first class passenger travel between points in Illinois and St. Louis, Mo., of 2.4 cents per mile. The Public Utilities Commission of Illinois has established a rate between points in the State of Illinois of 2 cents per mile. Evidently this rate of the Illinois Commission creates a discrimination in favor of Chicago and to the prejudice of St. Louis, because a buyer of merchandise can travel a distance of 154 miles to Chicago for the same fare as he would have to pay to travel a distance of 129 miles to St. Louis. If the market prices of commodities are the same in both cities, the area of territory tributary to Chicago is unfairly increased and encroaches on the territory which, under fair regulation, belongs to St. Louis.

(b) After consideration, the Interstate Commerce Commission established the fairness of rates on coal via the Chicago, Burlington & Quincy R. R. from the coal fields of Southern Illinois to points in the interior of Iowa. But the sum of the local rates on coal in Illinois and the local rates in Iowa was less than the interstate through rates between the same points.

In any properly constructed schedule of rates, the rates per mile are higher for hauling short distances than for hauling longer distances, the haul being over the same line and for the same commodity

in both instances. It is evident then, that either the rates established by the Interstate Commerce Commission were too high or that the rates established independently by the Commissions of Illinois and Iowa were too low. Due to its superior training and its broader experience, the presumption is reasonable that the rates established by the Federal Commission were fair to both the public and the railroads. Granting this, the rates of the two state commissions were unfair to the railroads, not only as to the particular rates cited, but as to the whole coal rate structure of both states where similar distances were involved. Without making any assumptions whatever, the state rates discriminated against interstate traffic in coal.

(c) The New York Central is the only through line between Buffalo and New York City lying wholly within the State of New York, all of the other lines passing through Pennsylvania and New Jersey. It is therefore under the control of the Public Service Commission of New York, as to its traffic between these two points, and all of the other lines are under the control of the Interstate Commerce Commission as to the same traffic.

Owing to a difference of views of the two commissions as to allowances to be made industrial railroads, the rate from a large industry via the New York Central from Buffalo to New York City was lower than by any other line, thus denying the industry mentioned the benefit of competing service of the other lines and precluding the participation of the other lines in the business of this industry. That is, the conflicting views of the two commissions created a discrimination in favor of one railroad and to the prejudice of both the industry and the other railroads. The same condition has existed in the

State of Pennsylvania between the Pennsylvania System and the other trunk lines.

(d) In what is known as the Shreveport Rate Case, the Interstate Commerce Commission prescribed rates from Shreveport, Louisiana, to points in the State of Texas, intermediate between Shreveport and Dallas, Texas. It was found that the railroads charged higher rates to these Texas points (interstate traffic) than those prescribed by the Texas Commission from Dallas to such points (intrastate traffic) under similar conditions and that in consequence Dallas was given an undue preference.

The Interstate Commerce Commission ordered the railroads not to charge higher rates from Shreveport to the points than were charged from Dallas toward Shreveport for equal distances. It allowed the railroads to correct the preference by raising the intrastate rates from Dallas to these points up to the rates it had prescribed from Shreveport for equal distances toward Dallas.

That is, the rates established by the Texas Commission were lower, for the same distances, than the rates established by the Federal Commission over the same railroad, and the railroads were directed to raise their rates above those prescribed by the State Commission, because they resulted in discrimination in favor of a city within its own state and to the prejudice of a city located in another state. The United States Supreme Court upheld this order of the Interstate Commerce Commission. The opinion, by Mr. Justice Hughes, contained the following, which emphasizes the evils attending state regulation: "We are not unmindful of the gravity of the question that is presented when state and federal views conflict. But it was recognized at the beginning that the nation could not prosper if interstate and foreign trade were governed by many

masters, and where the interests of the freedom of interstate commerce are involved, the judgment of Congress and the agencies it lawfully establishes must control."

Inter-relation of Rates.

The illustrations given have been selected for their simplicity and show the inter-relation of rates in adjoining states. The effect of intrastate rates however extends over vast territories in many instances. An intrastate rate established in Indiana, between a point situated near its eastern boundary and another situated near its western boundary, controls rates on traffic between Ohio and Illinois. An intrastate rate between Atlanta, Ga., and Savannah, Ga., in connection with the ocean rates, controls interstate rail rates from Boston, New York and Philadelphia to all points in the southeastern states, and these latter rates in turn control rates from St. Louis, Chicago, Milwaukee, Cincinnati and other points to all southeastern points.

The reason for the inter-relation of rates in this case is found in the fact that unless the all-rail rate between the northern Atlantic seaports and the southeastern points are adjusted to the combination rates—made by adding the intrastate to the ocean rates between the same points—the all-rail routes will obtain only a small and disproportionate amount of the traffic. It will be noted that this refers to an adjustment of rates between two different and competing forms of transportation.

The points in the southeast consume many commodities which are produced both in the Central States and in the Eastern States tributary to the Atlantic seaports referred to. The rates from these two groups of states to southeastern points must be so adjusted that the producers in one group may compete with the producers in the other group in

supplying the demands of the southeastern points. This, it will be noted, applies to an adjustment of rates between two widely separated and competing territories.

That is, the **intrastate** rates between Atlanta, Ga., and Savannah, Ga., affect the rates of two different forms of transportation—all-rail on the one hand and ocean-rail on the other—and the rates between the southeast and the immense territory lying north of the Ohio and Potomac Rivers, extending from the Mississippi River to the Atlantic Ocean.*

The effect of intrastate rates on interstate commerce can not be too strongly emphasized. They are usually predicated solely on local conditions, but often operate to the prejudice of the commerce of many states.

State Regulation of Operation.

In the regulation of the operation of the railroads, there has been no uniformity in the standards set up by the various states. These regulations have applied to the minutest details of operation.

Several of the states have forbidden the sending of equipment out of the state for repair. They have provided heavy penalties for delay in moving freight cars, requiring a greater average daily movement within the boundaries of the state than the average movement for the country as a whole.

*This discussion must not be construed as a criticism of any action taken by the Georgia Commission in establishing the particular rates mentioned. The rates between Atlanta and Savannah are **used only for the purpose of illustrating the effect** which rates made by State Commissions have on interstate commerce. The conditions here recited apply to rates from any interior point to a seaport from which regular lines of ocean carriers operate.

Many of them have safety appliance acts and headlight laws; what is forbidden specifically in one state is required in another, under penalty for neglect to provide. The hours of service law in one state sets the limit at 10 hours, in some others at 16 hours. Twenty states have "full crew" laws requiring the employment of a certain number of employees in train operation, the minimum number prescribed being often in excess of that demanded for safe and efficient service.

The widely varying requirements of the several states, as to these details of operation, show clearly the lack of intelligent consideration on the part of the commissions seeking to regulate. If 10 hours is the limit of time a train crew should be allowed to work in one state, evidently the 16 hours prescribed in another state is much too long. If an electric headlight is required on a locomotive in one state and forbidden in another and no particular action has been taken by many other states, it shows lack of intelligent consideration by at least some of the states.

It is not contended that railroad operation should go unregulated by authority, for past experience has shown that in some particulars it is necessary. It is suggested that the regulation be in the hands of those expert in the particular matter under consideration. The ordinary state legislature or state railroad commission does not possess that qualification and is liable to be led into ill-considered action.

It will be noted that this regulation is directed toward securing preferred treatment for the traffic of the state. The railroad is required to move freight cars twice the distance per day within the state as the average distance for the country as a whole. Such discrimination as to service is as immoral as a discrimination in rates.

The "full crew" laws indicate that the legislatures are prepared to legislate for political purposes solely, rather than in the interest of commerce. That is, state legislatures and commissions are not proof against the pressure from local interests.

State Control of Stock and Bond Issues.

Sixteen states have enacted legislation providing for the control of the issue of railroad stocks and bonds with results that are not entirely satisfactory in the case of interstate railroads. Instances are not lacking in which state commissions have sought to use this power to secure local advantages. An annual report of the Southern Pacific Company furnishes an illustration of such abuse of state power:

"To provide funds for corporate purposes, arrangements were made with bankers in May, 1913, for sale of two-year notes at a very satisfactory price. Authority of the California Commission was obtained without delay; approval of the Arizona Corporation Commission was withheld, pending certain assurances and guarantees on the part of the company with reference to the conduct of its business in Arizona which it was not warranted in giving, and during the time the matter was pending before the Commission, the condition of the money market had so changed that a sale of the notes could not be made. Further consideration of a two-year note issue was abandoned, and one-year notes were issued instead, and sold at a price yielding approximately \$275,000 less than would have been received had the two-year notes been issued without delay. Under the laws of California and Arizona the issue of one-year notes did not require commission approval."

Here is an instance of a state refusing to consider a financial proposition on its merits and from a

financial standpoint, but insisting on using it as a club in securing a state advantage not otherwise obtainable. Such action is clearly dishonest and an abuse of authority.

The conflict of authority attending the financial operations of a large interstate railroad is an intolerable nuisance and is not conducive to the adoption of the best possible financial plan, as the approval by the authorities of each state traversed by the railroad is required to validate it. Harmonizing the differing views of many states is a most difficult task, as the proceedings attending the reorganization of some of the larger interstate railroads serve to emphasize. In the case of the Wabash Railroad, the approval of six different state commissions was required and the approval of the Rock Island System's reorganization plans will involve a still greater number of state commissions.

Taxes.

In connection with an argument for federal valuation of railroads, the Interstate Commerce Commission in its report for the year 1903 said:

"Closely connected with the question of reasonable railway rates stands the question of reasonable railway taxation. * * * It would be wholly outside the purpose of this report to consider railway taxation. That subject is within the jurisdiction of the states. When, however, it is recognized that railway taxes amount to between four and five per cent of the aggregate operating expenses, and that on this account **a reasonable charge upon interstate traffic may be affected by the manner in which the states administer their taxing laws**, it may well be claimed that the valuation of railway property becomes a matter of Federal concern."

The connection between taxation and regulation is found in the effect which taxation has on net railroad earnings. Under our Constitution, railroad rates must be so regulated that the net earnings of a railroad will constitute a fair return on the value of the property used. The net earnings of a railroad available for payment of interest and dividends are ascertained by subtracting from the gross revenue the operating expense **and taxes**. The gross earnings of an interstate railroad are under the control of the Interstate Commerce Commission, through its power to prescribe the rates which produce the revenue. The assessment of taxes against railroads is under the control of the several states traversed by the interstate railroad.

If the taxes of any one of these several states is unduly high, the rates of the railroad must be high, so that the net earnings are sufficient to give a fair return on the value of the railroad property. It is evident then that the manner in which any state exercises its power of taxation affects directly the rates on interstate commerce. It follows from this that if the **rate of taxation** on railroad property is higher in any one of the several states traversed by an interstate railroad than in the others, an undue preference is created in its favor in the matter of railroad rates, its excess taxation being in effect a rebate on its cost of transportation. Widely varying methods and rates of railroad taxation in the several states are therefore *prima facie* evidence of rate discriminations.

There are three general methods of taxing railroads in use in the United States. The first applies the taxation on the basis of capitalization of the railroad, that is, its total stock and bond issues. The second applies a specific tax of a certain percentage of the gross earnings of the railroad. The third is

known as the ad valorem method, which is based on the idea that all property, both railroad and general, be taxed at the same rate per unit of actual value.

In the State of Michigan, which employs the last mentioned method, an "average rate" of taxation is obtained by dividing the total assessment of **general** property by the total taxes paid by such property. This "average rate" is applied to the valuation of the railroads, such valuation having been previously determined by an expert commission.

It is needless to state that such widely varying methods can not possibly produce uniform taxation. It must also be noted that regulation of interstate rates can not be successfully and fairly applied unless taxation is uniform in all states. Railway taxation in the State of Michigan will serve to show the lack of uniformity in railroad taxation.

During the period of 1902-1913 railroad taxes in Michigan averaged practically 30% of railroad net earnings; for the whole United States the taxes were 10.3% of net earnings. That is, railroads were paying Michigan practically three times as great a proportion of net earnings as were the railroads of the United States considered as a whole. Considering only the railroads which operated partly in Michigan and partly in other states, during the period 1909-1911, the taxes for the entire systems were 13.59% of net earnings; within the State of Michigan the taxes were 28.69% of the net earnings or more than twice that of the entire systems.**

**The percentages used in this paragraph are those given in an article "Railway Taxation in Michigan" by Prof. David Friday, Professor of Political Economy and Finance, University of Michigan.

Evidently the net cost of transportation—the interstate railroad rates less state taxes—is less in Michigan than in neighboring states and her commerce is thereby given undue preference. If the railroads of the State of Michigan paid the same rate on actual value of property as other property in the state, there could be no serious complaint made against its railroad tax. In theory, their ad valorem tax provides that the rate shall be the same on all classes of property, but as a matter of fact it is greater on the railroads than on other property, because railroad property is assessed at full value while other property, as an average, is assessed at about 60% of full value.

This was determined by a legislative tax investigating commission, appointed in 1911, which found that, on the basis of actual value, the following rates of taxes were being paid by various interests:

Farms, about **\$10 per \$1,000 of actual value.

City residences, about \$15 per \$1,000 of actual value.

Mines, about \$7 per \$1,000 of actual value.

Manufacturers, about \$5.30 per \$1,000 of actual value.

Railroads \$20.67 per \$1,000 of actual value.

The answer to the very natural question as to how rates of taxation on actual value could vary so widely in various interests, is found in the fact that railroad value was determined for the purpose of taxation by an expert commission, while the value of all other property in the state was determined by local assessors who are subject to pressure from local interests.

**From "Railway Taxation in Michigan," by Prof. David Friday.

Railroad Credit.

The credit of an interstate railroad is indivisible; if its credit is bad in Michigan it is also bad in New York, Pennsylvania and Ohio; it can not be bad in one and good in the others at the same time. The general public has a very large interest in railroad credit, as the rates it must pay and the quality of the service it receives from railroads is dependent in a very large measure on railroad credit.

If the credit of a railroad is particularly good, it will be able to borrow money at low rates of interest and its charges for transportation need not be so high as would be necessary if it were compelled to pay higher rates for the money it needs. If the credit of a railroad is seriously impaired it will be unable to borrow money in sufficient amounts to construct the tracks and structures and to purchase the equipment necessary to meet the demands of a first class transportation service.

The public is fully as interested in the matter of railroad credit as it is in railroad capitalization. A railroad with a capital of \$1,000,000, on which the interest rate is 6%, pays as much interest as if its capital were \$1,500,000 and its interest rate 4%. The net effect of increasing the interest rate from 4 to 6% is the same as increasing the capital from \$1,000,000 to \$1,500,000.

The public is the only source of railroad revenue and pays all of the bills incident to railway operation as well as the interest charge on money invested in the various facilities required in giving the public service. If the cost to the railroad for the use of money is high, the bill of the railroad against the public for its use of money must be high. The bill of the railroad against the public is rendered in the form of its schedule of freight and passenger rates.

For these reasons, railroad credit is a matter of national importance and the action of any particular state that injures the credit of an interstate railroad is prejudicial to national interest. Under present conditions, the action of a single state may and frequently does impair the credit of an interstate railroad of national importance, although its intrastate traffic may be perhaps less than 10% of the total traffic of the road.

Railroad credit, as a basis for securing capital, depends on the relation existing between net earnings and the issue of stocks and bonds. If the net earnings are at all times such that a fair return on the stock and interest on the bonds are assured, its credit is good; if not, the credit is so impaired that the rate of interest charged is high or the credit is not extended at all.

Net earnings are reduced either by reducing the revenue or increasing the operating expense and taxes. The previous discussion shows that the discriminatory state regulation has reduced the revenues of railroads. The cases cited of passenger rates in Illinois, coal rates between Illinois and Iowa points and the general level of rates in Texas are not isolated cases but are typical of general conditions.

The regulations of various states in the matter of repairing equipment, speed of moving freight cars, differing provisions for safety appliances, headlights, hours of service and size of train crews, have increased the operating expenses of railroads very materially.

State taxation has been excessive and unfair to the railroads; the unjust taxation shown as to the State of Michigan is typical, not isolated.

Various state commissions have abused their authority over the issue of securities of interstate

railroads by refusing to approve reasonable plans of financing. Such action has often involved direct loss to the railroads in carrying out financial operations. The action of the State of Arizona heretofore cited is typical of such cases.

Decreasing railroad revenue by discriminatory state regulation; increasing the cost of railroad operation by ill-considered regulation of its details; increasing taxation by the unfair application of taxing laws and increasing expenses of financial operation through the abuse of state power to control issues of securities, have all operated to reduce net railroad earnings and this reduction has served to impair railroad credit very seriously.

Reduction of Administrative Efficiency.

The railroads of the country are subject to the legislation of 48 separate states and the regulation of 43 separate state commissions, in addition to federal legislation and regulation. The number of, and the conflict between, the various requirements of this large number of independently-acting bodies seeking to regulate railroad affairs, results in the expenditure of a large part of the time, thought and energy of various administrative railroad officials. Between 1912 and 1915, more than 4,000 federal and state bills affecting railroads were introduced and more than 440 of them were passed. The cost of the lawyers and the experts who must appear before these various bodies and the value of the time of other officials and clerks who must compile the data required at such hearings represents in the aggregate an immense sum of money.

The construction of important improvements or extensions, which always involve financial operations, requires in the case of a large interstate railroad the appearance of its chief officials before the

commissions of the various states in order to obtain the approval of each commission and involves long delays in harmonizing the views of these various bodies.

Harassing the executives of railroads by a multiplicity of regulations and compelling them to appear before many commissions with the certainty of long delay, can not fail to reduce their capacity for efficient administration and discourage any creative activity that might naturally develop in the absence of such repressive policy. The inevitable effect of this condition must be to drive the ablest men into a more promising field of endeavor.

Federal Regulation.

In sharp contrast with this record of state regulation, lacking intelligence and even honesty in some instances through pressure of local self interest and political influence, stands the record of the Interstate Commerce Commission. It enjoys the confidence and respect of the whole country and its training and the broad experience of its oldest members have made it highly expert in detail matters pertaining to rate regulation.

It has however on at least one occasion failed to take a broad enough view of general conditions, the close relation existing between general business prosperity and general railroad prosperity. In attempting to fulfill its duty to the general public in the matter of regulating rates, it has allowed the margin of profit in operating railroads to become too narrow to assure the prosperity and hence the credit of the railroads.

This statement is based on the condition that existed in the period 1911-1915 and which may reasonably be expected to recur shortly after the close of the European war. The condition referred to is

the fact that many investors who have heretofore furnished the money needed for new railroad capital have lost faith in the stability of railroad investments and have refused to come forward with the capital absolutely essential to the proper expansion and extension of railroad facilities.

Capital can not be compelled. It insists on a sufficient margin of profit to assure payment of capital charges from net earnings at all times, and it has evidently found this assurance lacking in the conditions existing during the period referred to.

The results of railroad operation in the year 1910 clearly indicated a downward trend in the net revenues of the railroads of the country, especially those of the north central and eastern states. The trunk lines operating in this territory appeared before the Interstate Commerce Commission and asked for an increase in rates to counteract the falling off in net revenues, which request was denied by the Commission in 1911.

In July, 1914, after an inquiry extending over a year, the Commission again denied the request of the railroads. The following figures taken from the complete returns from operation for the year 1914 show the condition existing at that time. The statement was used in summing up the case for 35 railroads who were asking relief from inadequate return:

Increase in Capital Obligations.....	\$159,000,000
Increase in Property Investment.....	249,000,000
Decrease in Operating Revenue.....	48,000,000
Increase in Taxes.....	3,000,000
Decrease in Net Operating Income...	76,000,000
Decrease in Dividends Paid.....	12,000,000
Decrease in Surplus over Dividends..	84,000,000

(The Surplus of 76 Million Dollars of 1913 had disappeared and 8 Million Dollars in addition.)

Six months later, while admitting the inadequacy of railroad revenue, the Commission granted a portion of the increase asked but declined to grant the greater part of it on the ground that there were other ways open to the railroads for increasing their revenue.

The Commission stated in detail what means the railroads should adopt in securing the increased revenue, which it admitted was needed. The railroads at once proceeded to put into effect the suggestions of the Commission and were promptly prevented by court decisions, state commissions and in some instances by the Federal Commission itself from following these same suggestions.

The failure of the Commission to appreciate the situation fully and to remedy it promptly in the early part of 1914, served to render even more acute the serious financial and business depression which was fast approaching the dimension of a national catastrophe, which was only averted by the abnormal conditions resulting from the European war. The losses of the public due to business stagnation during 1914 certainly exceeded many times the amount it would have paid had the Commission granted the increases asked.

Suspension of Rates.

While the regulation in detail of the Interstate Commerce Commission has generally been fair to both the public and the railroads, there is at least one criticism which is justified, as it imposes an unnecessary hardship on the latter. This criticism refers to the power of suspension of railroad rates by the Commission.

Under the Federal law increases in railroad rates may be suspended by the Commission, without

hearing, for a period of four months after they would have become effective. As the rates must be filed with the Commission 30 days prior to the effective date, this means 5 months and the Commission may extend the suspension a further 6 months, if it so elects, or a total period of suspension of 11 months after the filing of tariffs.

This provision of the law may and often has operated to the serious and unnecessary impairment of railroad revenue. No important business can long survive if its revenue can not be adjusted, with reasonable promptness, to radical changes in business conditions and large increases in cost of production. A provision which allows railroad revenue to remain fixed for 11 months, while cost of operation is steadily increasing, is manifestly unfair to the railroad and incompatible with the safe conduct of its business.

It is not necessary or desirable that railroad rates should fluctuate with inconsiderable advances and recessions of operating cost, but a decided trend in either direction in cost of operation should be promptly met by an adjustment of rate schedules. Under present conditions, the Interstate Commerce Commission has by far too great a burden of work imposed upon it by Congress. When its field of activity is reduced within reasonable limits, as it soon must be, there should be no difficulty in limiting the period of suspension of railroad tariffs to sixty days from date of filing.

Sherman Anti-Trust Law.

Competition among the railroads in the matter of rates has long since ceased. Our experience amply proves that it is undesirable in every way from the standpoint of the public and the railroads. In our early history it was responsible for the bank-

ruptcy of many railroads and the mother of discriminatory rates.

The stability of railroad rates and the fact that all interests pay the same rate for the same or equal service is of much greater importance to the public than any temporary advantage it might gain from competition among railroads.

Under these conditions, it is ridiculous to apply the inhibitions of the Sherman Anti-Trust Law to railroad affairs. The primary intent of the law is to foster competition, but as railroad competition is not in the public interest the provisions of the law should not be applied to railroad administration. So far as its effect on railroad rates are concerned, it is a dead letter. The rates between two points are now the same by all of the railroads operating between them. Evidently this condition can not obtain without agreement between the various lines, and yet such agreements are prohibited by the law. The railroads are forced to keep up the pretense of all deciding on exactly the same rate at the same time, without consulting among themselves, which is manifestly impossible.

What actually happens is, that the railroads through their various traffic associations determine after discussion what rates they will publish for any particular traffic and submit these for the consideration of the State and Federal Commissions. Instead of being able to announce truthfully, that, after meeting and discussion, the following rates have been agreed upon and will be filed with the Commissions, on a certain date, the Chairman of the Association, through a circular letter to all railroad members solemnly announces, that "Railroads interested, individually advise, that the rates will be so and so." This is legal mummery and tends toward disrespect for law.

The Sherman Law is not dead in some other respects, however, and exercises a harmful restraint in the combining of various independent railroads into compact systems. The Nickel Plate* railroad was built subsequent to and parallels the Lake Shore Railroad**—now a part of the New York Central System—from Chicago to Buffalo. Ostensibly it was built to compete with that railroad. It was charged at the time and universally believed that the real purpose of its builders was to harass the Lake Shore, through competition, into buying it at a large profit over its cost.

Competition between the lines brought the Nickel Plate into bankruptcy, which proved conclusively that it was unable to compete with the Lake Shore under the existing conditions. The New York Central System is prohibited, under the provisions of the Sherman Law, from owning and operating the Nickel Plate directly, and yet actual experience has proven conclusively that an independent company can not operate it profitably. Why keep up the pretense of maintaining independent ownership when such ownership has been demonstrated to be economically impossible? It increases the cost of administration as it must have separate officials, must enter its appearance at hearings separately, maintain separate offices for soliciting traffic and in many ways increase the cost of the railroad's operation without benefit to the public from such separate organization.

Railroad Mail Pay.

The total receipts of the railroads of the country for carrying United States mails, for the year

*New York, Chicago & St. Louis R. R.

**Lake Shore and Michigan Southern Ry.

1915, were practically 58 million dollars, which was 1.97% of total gross railroad earnings. Consideration of the effect of Congressional action on the mail earnings of the railroads is pertinent to a discussion of government regulation, as such earnings have a marked effect on the return on capital invested in railroad securities.

There has been much controversy over the matter of compensation for railway transportation of mail. Naturally the head of the Post-Office Department wishes to make as favorable a showing for the operation of his department as possible. Various Postmaster Generals have charged that the railroads were overpaid; the railroads have insisted that for many years they have been underpaid and both have submitted tons of statistics in support of their contentions.

The purpose of submitting the following is not to discuss the merits of the contentions of either side in the controversy, but to show that present regulation of mail pay is unintelligent and requires that a more satisfactory method be found for determining just payment than those heretofore employed.

The following are comments of members of various Congressional Committees which have heretofore been appointed to investigate the question of mail pay.*

The Post Office Department submitted to a Congressional committee in the period 1898-1901, a statement showing that the railroads were paid on an average 6.58 cents per pound for transporting

*The following data relating to mail pay have been taken from the published speech of Senator Jonathan Bourne, Jr., before the National Civic Federation, Nov. 4, 1914.

mail, averaging 40 cents per ton-mile, with an average haul of 328 miles. A special weighing made to test the accuracy of the statement, demonstrated that the actual payment was 2.75 cents per pound, averaging 12.56 cents per ton-mile, with an average haul of 438 miles.

A member of the committee, Congressman Moody, later a Justice of the Supreme Court, commented on the statistics as follows: "We were not paying one-third as much as the Post Office Department had led the people of the country to believe we had been paying."

In 1911, a commission was appointed by Congress to investigate the subject of postage on second-class mail matter. Justice Hughes of the Supreme Court was Chairman of this commission. The statistics submitted by the Post Office Department were found to be erroneous and the Department changed its figures on demonstration of their inaccuracy. The commission's report contained the following comment: "It seems hardly worth while to include subsidiary tables from which these results are taken or to criticize the details, as the Commission has little confidence in their accuracy."

A Joint Congressional Committee considered four plans for mail payment submitted by the Post Office Department in the period 1911-1914.

The first, reported in 1911, purported to effect a saving to the government in railway mail pay of 9 million dollars annually. Study of the plan developed the fact that it provided for a payment of only 6% over the actual operating cost to the railroad incurred in carrying the mail, no allowance being made for the company's capital charges on its roadbed, tracks and equipment.

A second plan, submitted in 1913, was found by the Committee to be "practically unadministrable and certainly undesirable."

A third plan, submitted in February, 1914, provided rates which the Committee demonstrated would be absolutely confiscatory.

The fourth plan was in the form of a bill, introduced in Congress in June, 1914. The Joint Committee again demonstrated that the rate of pay proposed was absolutely confiscatory.

Ex-President Taft, in commenting on the parcel post service, said: "When we establish a parcel post—a good measure in itself—and make the railroads carry all of the business we can get, without adequate compensation, we are stealing from the railroads. That is what we are doing."

A properly constituted body should have no serious difficulty in establishing the facts on which to base a fair method of payment for carrying the mail. A service which at the present time involves an annual payment of 58 million dollars certainly demands an investigation of a very different nature than any that has heretofore been made. Such an investigation, freed from departmental bias and the politics of Congress, would assure justice to the public and the railroads alike.

Summary.

Let us summarize the foregoing discussion:

State Regulation of Railroads.

Through the pressure of selfish local interests, state regulation has resulted in **discriminations against interstate commerce.**

State regulation has resulted in **increasing the cost of railroad operation** by:

(a) Imposing unreasonable conditions as to equipment repairs.

(b) Seeking to secure preferred treatment in the movement of its own traffic.

(c) Imposing ill-considered requirements as to safety appliances.

(d) Increasing the cost of railroad labor, under political pressure, by hours of service and full crew laws, without increasing the efficiency of the service.

(e) Increasing the cost of financial operations by abuse of the power to control issue of railroad securities.

State regulation has seriously **impaired railroad credit** by reducing the net earnings below a fair return on invested capital, through the application of its regulation of rates and practices as just described above.

Through the multiplicity of repressive laws and regulations, state regulation has **reduced the efficiency of railroad administration** and crippled the spirit of initiative to the detriment of existing service and of its needed extension.

FEDERAL REGULATION.

Interstate Commerce Commission.

The Interstate Commerce Commission has shown marked intelligence, honesty in purpose and resistance to political pressure in matters pertaining to the adjustment in detail of rates on interstate commerce and in consequence enjoys the respect and confidence of the whole country.

It has allowed the margin of profit in operating railroads to become too narrow to assure a fair return on invested capital, which has resulted in serious injury to railroad credit.

It has on occasion shown narrowness of vision in failing to appreciate the close relation existing between national business prosperity and general railroad prosperity. Its long-delayed consent to allow rate increases served to increase the serious business depression in 1914.

Its power of suspending railroad rates for a period of 11 months prevents the prompt adjustment of railroad revenue to railroad operating expense during periods of changing business conditions. To avoid business failure, increased expense must be met by increased revenue in railroad as well as in general business. When the work of the Commission is reduced within reasonable bounds, there should be no difficulty in limiting the period of suspension to two months.

Congress.

Government regulation of railroad rates precludes railroad competition. The application of the Sherman Anti-Trust Law to railroads is therefore unnecessary. It is injurious, as it promotes disrespect for law and increases the cost and decreases the efficiency of railroad operation, without securing any benefits whatever for the public, and its inhibitions as applied to railroads should be repealed.

Government regulation of railroad mail pay is neither intelligent nor honest. A fair method of payment for such service should be determined by some investigating body free from departmental bias and congressional politics.

SINS OF THE RAILROADS.

Having considered the weaknesses and inconsistencies of government regulation, let us now turn to the sins with which the railroads have been charged, both those of omission and commission. The list is too long to include them all, and many of them are not worth discussion. Seven of the most important are chosen, which might be termed the Seven Deadly Sins of the Railroads, viz: Dishonesty, Arrogance, Discrimination, Political Activity, Obstruction of Waterway Improvements, Lack of Foresight, Inefficiency.

Dishonesty.

Dishonesty in connection with the financial operations of the railroads has been charged and abundantly proven. There is a percentage of it in most humanly conducted affairs, and it appears in all lines of business. The presumption is fair that the percentage of dishonesty is about the same among railroad men as among bankers, insurance men, merchants, manufacturers, miners, farmers and all of the others. The magnitude of the financial operations of railroads is what has drawn the attention of the public to them particularly.

It is not the purpose of this article to review the record of crooked railroad finances in detail. The papers have been full of it for many years, sometimes with accurate statements and often with gross exaggerations. The truth itself has been bad enough and needed no exaggeration to make it palatable for the most inveterate scandal-monger.

For an account in detail of the sins of the railroads in connection with their financial operations, the reader is referred to "Railroads, Finance and Organization," by Prof. Wm. Z. Ripley. There are

some hundreds of pages in which the financial methods of the railroads are lambasted most unmercifully. His exposition of dishonest methods employed in financing railroads will satisfy their severest critic.

He concludes, however, after a most thorough investigation and searching study of the subject, that "the evidence is conclusive that over-capitalization does not exist," and that the popular delusion in regard to over-capitalization is a "hoary-headed bogey." If so severe a critic and an investigator so competent reaches this conclusion, the rest of us may accept it with some confidence. The valuations of the property of railroads which have been made by several states for the purpose of taxation or rate regulation, confirm this. The following table shows the results of state valuations which have been reported to date. There is little reason to doubt that the valuation now being made by the Interstate Commerce Commission, under the Federal Valuation Act, will show a value considerably greater than that reported by the states. It will be noted that the reproduction cost of the railroads exceed their capitalization 19.2%, or by an aggregate amount of more than 268 million dollars.

State Valuations of Railroad Property.

		Cost of	
State.	Year.	Reproduction.	Capitalization.
Washington, 1905....	\$	194,057,240	\$161,582,000
South Dakota, 1908..		106,494,503	109,444,600
Minnesota, 1907,....		360,961,548	300,027,676
Wisconsin, 1909.....		296,803,322	225,000,000
Nebraska, 1911.....		327,190,820	**263,170,000
New Jersey, 1911...		374,760,425	**333,568,000
Total.....		\$1,660,267,858	\$1,392,792,276

**Commercial Valuation Census Bulletin 21.

So far as the general public is concerned, it may be assured that it is not now asked to pay excessive rates on over-capitalization of the railroads, and that feature of the subject may be dismissed without further discussion.

The capitalization of the railroads is a matter of very great importance to the public, because it is closely connected with the question of rates and the credit of the railroads. For the future we cannot afford to take any unnecessary chances of a repetition of some of the past transactions in railroad financing. Very retent disclosures of the financial operations of the Frisco*, Rock Island and New Haven Systems indicate that such operations need supervision, even when handled by our most reputable financial houses.

A different and much improved method of public supervision must be applied, as experience teaches us that state supervision of the issue of railroad securities has proven wholly inadequate to accomplish what is desired.

Modern conditions demand for our large systems a comprehensive financial plan, applicable to the **system as a whole** and not divisible by states. Divided authority as to the issue of securities and expenditure of new capital is a bar to efficient supervision. Intelligent supervision demands special knowledge and broad experience in financial affairs of magnitude. National control along these lines is absolutely essential to efficient supervision of railroad finances and is in the interest both of the public and the stockholders of the railroads.

*St. Louis & San Francisco Ry.

Chicago, Rock Island & Pacific Ry.

New York, New Haven & Hartford Ry.

Arrogance.

It is charged that the railroads were arrogant in the days of their power. According to newspaper reports, a certain prominent railroad executive, many years ago, announced a "Public be Damned" policy, which has served to damn railroad administration ever since. The charge of arrogance is true, for the railroad managers failed to appreciate their duties to the public, through undue regard for the interests of stockholders.

With railroad managers, net returns on capital were an absolute necessity, if new capital was to be secured for needed expansion and extension. They regarded railroads as private property, as indeed the public very generally did, forgetting that their grants and franchises were made for the purpose of constructing a **public highway**, in which the public had a greater interest even than railroad stockholders.

In territories with great natural resources and without transportation, the necessity for railroads was most urgent and their construction and operation were regarded as public benefactions. As such railroads could not be built without capital, the capitalists were arrogant in their dealings with the public. Under similar conditions in other lines of business the same arrogance results; it is a very human trait, so common that we are all familiar with it.

Later, in the interest of railroad employees and the general public, the Interstate Commerce Commission demanded that the railroads equip their cars with automatic couplers and air brakes, to assure greater safety in railroad operation. The railroads protested vigorously, on the ground of cost, and were unable to agree among themselves on

standard designs for such appliances until forced by the Commission to do so. This opposition to the perfectly reasonable request of the Commission was ultra-conservative and ill-advised, as subsequent events abundantly prove. All trains have been so equipped for some years past; in fact it is impracticable to operate our modern heavy freight trains without such appliances.

Still later the railroads have protested vigorously against the hours of service law. Trainmen had been required to remain in service an excessive number of hours, without rest; many accidents were traceable to this cause. The Commission's demands, in the interest of the safety of the traveling public, were reasonable; the organized resistance of the railroads to the passage of the measure was ill-advised.

The charge against the railroads of former arrogance, coupled with an ultra-conservative policy in some particulars, is fully sustained by the facts. The complete humiliation of railroad administration and the thorough eradication of former arrogance of executives, has been effected by most drastic measures of repressive State and Federal regulation. They can neither control their revenue nor expenditure, for both are largely in the hands of government regulating bodies. It may perhaps be well to record these facts as a matter of history; they have little interest for the student of our present transportation problem.

Discrimination.

Prior to the enactment of various State laws in the early 70's and the passage in 1887 of the Act to Regulate Commerce, the railroads sought business in the same way that merchants sought, and still seek it. Every railroad competed with other railroads,

using such methods and offering such inducements as were necessary to obtain the patronage of the particular shipper whose business was desired, just as merchants and manufacturers were doing. To the larger shipper lower rates were made than to the smaller shipper, on the same principle that merchants sell at a lower price to wholesale than to retail dealers.

The railroads played one shipper against another, one locality against another. The shippers in turn played on the jealousies existing between the railroads and their desire to obtain new or retain business they already held. It was a condition of open and free competition and was regarded as the normal method of conducting business. It was neither immoral, judged by the business standards of that day, nor was it forbidden by any law of the land.

Men in middle life will recall many "rate wars" that were common in this period. During one passenger rate war the fare from Cincinnati to St. Louis, a distance of 339 miles by the short line, was \$1.00, the cost being less than 1-3 of a cent per mile. Such fares and many even lower were in effect, at various times, all over the country.

In competing for freight traffic, rates were made with absolute disregard to cost of service. Printed freight tariffs during freight wars meant nothing, the rate being made at whatever figure was required to get the business. Excessive competition resulted in chaos as to the rates, ruined the business and was unsatisfactory in every way to the shippers. All freight wars were costly and accomplished little, as the competing roads were forced to come together finally because the resources of both were usually exhausted.

In 1868, the rate per 100 lbs, on first class freight between Chicago and New York was \$1.88. A

freight war reduced it to 25 cents in 1869. A temporary truce held it between \$1.00 and \$1.50 from 1870 to 1874. A war in 1876 reduced it temporarily to 25 cents. It is now 78.8 cents. Discriminations in favor of industries located in competitive territory and to the prejudice of local interests were inevitable.

The price paid by the public for this competition was uncertainty as to the cost of marketing its products and discriminations against individual industries and different localities; the price paid by the railroads was lack of any revenue after paying expenses or an actual deficit.

It became apparent that this system of competition, and the practices attending it, served neither the best interests of the public nor the railroads. Unrestrained competition was bringing many roads into bankruptcy. Discrimination in rates threatened the independence of commercial and industrial interests and of whole communities.

Neither the railroads nor the shippers had the power, however, to abate the evils which were a menace to both. It required an act of the Federal Government to correct these conditions. The passage of the act was in the interest of the public at large, the shippers and the railroads.

We have become accustomed to speaking of the action of the railroads in the period prior to the enactment of regulatory laws as something criminal, or at the best, very immoral. Judged by the standards of business of the time and by the existing laws, their action was neither immoral nor criminal. Railroads were regarded by their owners, and by the public very generally, as private property, subject to the same laws of competition as any other business. Their true relation to the public had not been generally perceived at that time. Judging the acts

of the railroads during this earlier period by the standards of today is, therefore, manifestly unjust.

Competition has been the mother of discrimination. Competition was demanded and assisted by the public in order to obtain lower railroad rates. The fact that it failed to appreciate for some time that competition was not in its interest, does not relieve it of responsibility for actual conditions. There can be no doubt, in the light of past experience, that the public and the shippers have primarily been more guilty than the railroads in the matter of discriminations as to rates and practices.

Deliberate discrimination by the railroads ceased to exist some years ago. The few instances in which it now occurs are due to ignorance or carelessness. The severe penalties inflicted for the offense may be depended on to prevent their recurrence. The only remaining discriminations are those against interstate commerce which are caused by state regulation over which the railroads have no control.

The discussion of railroad discrimination and arrogance, in connection with our present railroad situation, is equivalent to a discussion of the burning of the witches at Salem in connection with the present morality of the people of Massachusetts. Arrogance, discrimination and the witches should be consigned to history and forgotten.

Political Activity.

Political activity may be divided broadly into two kinds, fair and pernicious. An interest that employs 1,800,000 people, pays 140 million dollars in taxes a year and has 16 billion dollars of capital invested, not only should have a right to appear before Congress, legislatures and various commissions, but should have representation therein in some instances.

Such bodies pass laws and prescribe regulations affecting railroad revenues, fixing their rates of taxation, affecting their labor costs and the return on their invested capital. Any business interest that is not represented before these governing bodies must inevitably suffer injury, either through their acts or their omission to act.

Labor, Agriculture, Merchandising, Manufacturing, Mining, Banking and all other divisions of business are freely accorded this right of representation as a matter of course, for our theory of government contemplates a political organization representing all classes of business, in order that the needs of each class shall be considered and its rights secured.

This right of representation is so elemental that it seems hardly necessary to state it, and yet the most serious charge that can be made against a man in public life is that he represents the railroad interest, and men appearing before legislative bodies to present the views of the railroads on measures affecting their vital legitimate interests are characterized as lobbyists.

Between 1912 and 1915, more than 4,000 bills directly affecting railroad interests were presented for passage to Congress and the legislatures of the various states. Some of these bills were blackmail, pure and simple, and were never presented with the intent of enacting them into law but merely to "shake down" the railroads. Evidently the true character of such bills must be exposed by the agents of the railroads.

The practical workings of bills prescribing hours of service and what are known as "full crew" laws must be shown legislative bodies, as many of the members have not the requisite experience or technical training necessary to analyze their effect.

The actual effect of many bills which are offered in good faith and with honest intent are often not understood even by their authors. Such bills require discussion and a showing of the practical effect of their enactment.

These conditions require that railroad officials, lawyers and others appear before these governing bodies for the discussion of matters pertaining to railroads. This is absolutely indispensable to the proper conduct of railroad business. It is also in the interest of the public that they do so. Objection to political activity of this kind is proof of a narrow and suspicious mind.

Rogues engage in all lines of business, including the business of transportation. The percentage is small and decreasing but will never entirely disappear. The pernicious political activity of railroads is due to this small percentage of thieves who have found their way into railroad organizations. The remedy for the evil these men do will not be found in general condemnation of all political activity on the part of the railroads. It must come through an improvement in the personnel of railroad organizations and that of the governing bodies making laws and prescribing regulations affecting railroad business.

A crooked railroad political deal requires participation both by a **government crook** and a **railroad crook**. The public and the railroads, therefore, are equally responsible for the acts of these crooks. A condition that existed in Chicago some years ago will serve to illustrate this mutual responsibility. The circumstances related probably had their counterpart in most of our cities.

It was charged and generally believed that the railroads, in many instances, obtained the right to lay their tracks in city streets and other public

places, through bribery of certain city aldermen, known to the public as the "gray wolves." The situation became intolerable and caused discussion from every possible angle.

Finally somebody suggested that the people of Chicago elect a city council in which honest aldermen were in the majority, and this was done. The council so elected established a rule which provided that when the right to use any public street was granted, a valuation should be made and the railroads be required to pay the city a rental for use, based on the value of the property. Railroads now go before the proper committee and arrange for lease of city property in much the same way they deal with private individuals. The situation at present is regarded as satisfactory by both the public and the railroads. It will be noted, however, that it followed the resumption of honesty in city government and presumably in some railroad organizations.

The common-sense method of dealing with pernicious political activity used in Chicago will have the same effect wherever applied and will reduce the evil to the lowest possible minimum.

Obstruction of Waterway Improvements.

The railroads have been charged with obstructing the improvements of waterways, in order to lessen competition from a cheaper form of transportation. Even if the charge were true it would have no force, for the public as a whole has always shown itself to be bigger than the biggest business in the country or all big businesses combined. When the public has made up its mind that transportation might be cheapened by improving certain natural waterways, they have been improved. The construction of the Panama Canal, the reconstruction of the

Erie Canal, the improvements in the Great Lakes, of the Ohio River and of innumerable projects covered in the River and Harbor bills abundantly prove this.

Many of these projects have been unwise, but when the public have demanded them no interest or combination of interests has ever been strong enough to prevent their construction. The reason many proposals for improving waterways are rejected lies in the fact that the public has found, through extensive experience, that promised reductions in transportation charges do not result from their construction. This, not railroad obstruction, is the most serious obstacle to many proposed waterway improvements.

In some situations water transportation is so much cheaper than rail, that railroads do not attempt to compete for the traffic. In others, rail transportation offers such rates and services to shippers that no amount of money than can be expended for the improvement of waterways will force the traffic over the water routes. We have plenty of illustrations of both kinds in this country.

There is an enormous tonnage of ore and lumber **moving south** from Upper Michigan and Minnesota to furnaces and mills in Illinois, Indiana, Ohio, Pennsylvania and New York. There is a large tonnage of coal and similar products **moving north** from these latter states to the northern lake ports, for consumption in the north and northwest.

The ore vessels southbound are loaded to capacity and have a paying cargo of coal on their return trip northbound. For the reason that the rail lines must of necessity skirt the shores of the Great Lakes, the distances are shorter by the water than by the rail routes. The enormous tonnage to be moved justifies large investment in plants for transferring coal and

ore economically from vessel to dock or connecting rail lines. It is needless to add that, under these conditions, practically all of the coal and ore traffic moves over the water routes. In 1916, the lake freighters moved 64,734,198 tons of ore out of a total of a little more than 65,000,000 tons.

The Erie Canal, completed in 1825, connects the Hudson River with Lake Erie at Buffalo. The New York Central R. R. parallels the Hudson River and the Erie Canal for practically the whole distance between New York and Buffalo. The railroad was completed in 1842, although at that time it was owned by fourteen independent companies. Vanderbilt, in 1853, consolidated these various companies into the New York Central and Hudson River R. R.

Between 1825 and 1853, the canal tolls were reduced until they were only one-third of the original tolls and even with this reduction, the canal paid the State of New York a yearly profit of 50% on its original cost.

The combination of the independent railroads into one system effected such economies in operation that the railroad decreased its rates. The decreased rates brought it a much greater volume of traffic, which further reduced the unit cost to the railroad, permitting it to reduce the rates still further. This reciprocal process continued until railroad rates were so low that the canal traffic practically disappeared, in spite of the fact that, in the meantime, the state had abolished all tolls and maintained the canal from its general appropriations, for the purpose of encouraging canal traffic.

The railroad now moves a larger traffic than the original canal could have carried and the average rate for moving it is less than 20% of the original rates. The railroad took the traffic away from the

canal simply because it offered lower rates and better service. If it had not offered superior inducements the canal would have retained the business, which it had practically monopolized for nearly 30 years.

That no unfair advantage was obtained by the railroad from the legislature or state officials is shown by the fact that all canal tolls were abolished and that the expense of operating and maintaining the canal was paid from state funds, thus offering the canal every possible advantage in its competition with the railroad. This experience serves to illustrate the fact that in many situations, rail transportation is more economical than water transportation, even though the water route is not charged with the interest on the cost of its construction or the expense of maintaining and operating it.

Neither is this an isolated case, for many canals were built in the Central States, connecting the Lakes with the larger rivers, and the experience has generally been similar to that just related. It is the experience which the public has gained in connection with such public enterprises that obstructs many proposals for waterway improvements—not obstruction from the railroads.

The Panama Canal is not included in this class of improvements. Aside from economic conditions, political and military considerations are of sufficient importance to justify its construction, even though it never returned a penny directly to the country from its operation. Increasing the means of communication between the Pacific coast, on the one hand, and the Mississippi Valley and the Atlantic Coast, on the other, and decreasing its cost, are essential to the unity of national interest and national defense.

There are certain inherent disadvantages in water transportation which some enthusiasts overlook.

Water-borne commerce on rivers, lakes and the ocean is subject to accidents and storms. This is so generally recognized that practically all cargoes are insured. Canals, lakes and rivers freeze during the winter months, in the greater part of our country, and the service over them is not continuous—that is, inland water transportation can not usually take care of its patrons the year around.

The territory directly served by water transportation is confined to a narrow margin of land abutting on the water course; to serve the surrounding country the cost of loading and unloading from vessel to car and of rail transportation from point of transfer to interior point must be added to the cost of water transportation.

In comparing the respective costs of water and rail transportation, there are some items which are often omitted. The work of improving waterways and maintaining them subsequently, is usually done by the government and the cost is therefore paid by the public. The public does not pay its whole transportation bill when it pays the charge of a water transportation company; it must add what it pays government for improving, operating and maintaining the waterway.

The foregoing is not to be considered as an argument against a well considered policy of waterway improvement. There are some improvements of this kind urgently needed, and they will undoubtedly be constructed, and when constructed will advance the general interests of the railroads as well as those of the public.

Lack of Foresight.

If our railroads had been built in accordance with a comprehensive plan, conceived at the beginning of our construction, many roads now built would not

have been constructed, or if constructed their location would have varied considerably from that adopted. The designer of such a plan would have been seriously handicapped from lack of knowledge as to where the industrial developments were to take place. No survey of the natural resources of the country had been made. Without such a survey the plan for proposed railroad construction could not have been intelligently drawn.

If we had no railroads at the present time and were called upon to design a system of roads to serve all of our needs as they exist today, there is no doubt that we would be able to design a more intelligent and efficient system than the existing one. Such a supposition involves an impossible condition, for the present development of districts far from water courses would have been impossible without railroad transportation. This must ever be borne in mind in considering our existing railroad system.

Contrary to the practice of all foreign countries except Canada and perhaps a few others in North and South America, the larger part of our railroads were built **in advance of the development** of the resources of the country. The principal exceptions to this general condition are found in those roads which were built in response to the demand of the public for competition between railroads, referred to in a previous article.

Most of our railroads constructed prior to 1870 could not have been built without aid from various municipalities, counties and states. The locations of these lines were controlled in large measure by the communities granting the aid. That is, roads were constructed where aid of the kind mentioned was available and they have been connected up subsequently by connecting lines of railroads. For this reason the public and the railroads are equally re-

sponsible for the present location of most of our railroad lines. Many of the original roads have been reconstructed at railroad expense.

In some instances roads which were at one time useless duplications have since come into beneficial use in relieving congestions on the lines they parallel, the traffic of the territory they serve having outgrown the capacity of both original lines. The Nickel Plate and the West Shore, which originally were duplications of the New York Central and Lake Shore, are illustrations of this condition.

Considering the conditions under which our railroads have been constructed, the wonder is, not that there are occasional duplications, but that there should be so few. Adding to this that the public and the railroads are equally responsible for the present location of railroad lines, the charge that the public are unjustly taxed for transportation through lack of foresight of the railroads in locating their lines is absurd.

Inefficiency.

The charge of inefficiency is usually made by those lacking information of actual conditions. We hear it every four years during our Presidential campaign and yet when the outs become the ins the same charge of inefficiency is repeated. Not long ago a lawyer, arguing before the Interstate Commerce Commission, asserted that he could effect economies in operation that would save the railroads of the country one million dollars a day. If there was any such man in the United States, the railroads certainly would not let him work for anybody but themselves, for they are striving for efficiency in operation as strenuously as any business interest in the country.

When we speak of efficiency it is to be understood as a comparative term. There is no such thing as absolute efficiency. We say this business is more efficiently managed than another, basing our comparison on the net results of operation of the two. To test the efficiency of our railroads as a whole, we must compare the results of their operation with that of some other system.

Anticipating what is discussed in greater detail in a subsequent chapter, a comparison of the efficiency of our railroads with that of all foreign countries whose statistics are available, establishes the following facts:

The capitalization of roads in the United States is less than any foreign country, except where the comparison is made with narrow gauge railroads with low standards of construction.

The first class passenger fare is lower in the United States than in foreign countries. The **average** fare is higher because more than 90% of our travel is first class while more than 90% of foreign travel is 2nd, 3rd, 4th and lower classes. The only exception to this statement is that the class of travel in Canada and perhaps other American countries is more nearly like our own. Our passenger service, in all cases, is superior to that of any foreign country.

The average freight rate is very much lower in the United States, in every instance, than that of any foreign country, even without making allowance for higher wages and better service. The average freight train load of our railroads is very much greater than that of any other country.

More units of traffic—passenger miles and freight ton-miles—are moved per employee by our railroads than by those of any foreign country.

The wages paid railroad employees in our country are higher than those paid in any foreign coun-

try—more than seven times those of Japan and twice those of Germany.

Making allowances for lower rates charged and higher wages and taxes paid in the United States, our return on capital or cost of construction is much larger than that of any foreign country. Even though our freight and passenger rates are lower, if railroad taxes and the cost of railroad labor were no higher in this country than in Europe, Asia and Australia, the rate of return on our present capitalization would be large enough to satisfy the most exacting of the railroad owners.

By the comparative test, which seems to be the only feasible method, we have the most efficient railroads in the world, the best equipment, the most economical management.

In all humanly conducted enterprises there is a certain amount of inefficiency which persists, however careful the supervision. The uninformed observing these occasional lapses, which may apply to only an unimportant operation, conclude that the whole system is badly managed—inefficient.

There is no doubt that our management of railroad operation may be improved, for it has constantly improved in the past. But to say that our railroad rates for passenger and freight service are unduly high on account of inefficiency, in the face of the fact that we have the best service and lowest rates in the world, in spite of paying our labor more liberally than any other country is a confession of ignorance or worse.

In an address before the Philadelphia Chamber of Commerce, in January, 1917, Secretary of Commerce Redfield said:

“We all know and talk about railroad freight rates. We have a special government commission to deal with them. They are the cheapest freight

rates in the world with the possible exception of those of India. There is no nation that competes with us that would not rejoice to take our freight rates as they are without complaint and with great gladness. Yet we fuss about them a great deal."

Summary.

To summarize this discussion we may say:

In the interest of both the public and the owners of the railroads, the issue of railroad securities and the application of the proceeds from their sale, should be under national supervision.

The former arrogance of railroad administration has been entirely eradicated.

The practice of discriminating between shippers and localities was abandoned by the railroads some years ago and there is no danger of its recurrence. Neither former arrogance nor discrimination have any bearing on our present railroad problem.

The greater part of the political activity of the railroads is fair, indispensable to the proper conduct of their business and in the public interest. The public and the railroads are equally guilty for such pernicious activity as exists.

As there can be no effective obstruction by the railroads to the policy of improvement of waterways, the charge that railroads obstruct such improvements lacks force. The real obstacle is found in the economic conditions surrounding such improvements. The previous experience of the public, in many instances, has been that promised benefits have not been realized through the construction of such improvements. Some waterway improvements are urgently needed and when constructed will advance railroad interests as well as those of the general public.

The public does not pay rates unduly high on account of lack of foresight on the part of the builders of our railroads. The conditions prevailing at the time of construction must be considered in judging our existing railroad system. The public and the railroad builders are equally responsible for the location of the larger part of our railroads.

Our railroads are the most efficiently managed in the world for the following reasons:

Our capitalization per mile is the lowest.

Our passenger and freight rates are the lowest.

Our railroad employes move more traffic per man.

Our wages are the highest.

Our return on capital is the highest after allowing for higher wages and taxes. Even though our wages are the highest, if our railroads were allowed the same rates and paid the same taxes as foreign roads, our returns would satisfy the most exacting railroad shareholder.

A CONSTRUCTIVE RAILROAD POLICY.

The purpose of this chapter is to suggest remedies for some of the evils existing in our present methods of administering and regulating our railroad system, to which attention has been directed in the two previous chapters, and to propose a plan for applying the suggested remedies to cure such evils.

Necessity for National Regulation.

Government regulation is now applied to railroad affairs through the following agencies:

Congress	1	Federal ..	2
Interstate Commerce Commission.	1		
State Legislatures.....	48		
State Commissions.....	43	State	91
<hr/>			
Total.....	93		93

The previous discussion of regulation shows clearly that the several states have not resisted the temptation to regulate for their selfish and exclusive advantage. It is too much to expect that they would do otherwise, as state agencies are organized to look after the interests of the particular states they serve. The fair state suffers from the act of the selfish state and, in many instances, a discrimination against interstate commerce results.

The inevitable result of attempting to regulate through 93 independently-acting agencies of government is patchwork. The conflicting requirements of these various agencies are confusing and show the system to be illogical, fundamentally wrong and a bar to efficient conduct of business. It is not surprising that such a system of regulation has broken down.

Regulation, to be efficient, must be under one authority. Congress is the only agent of government with sufficient power to regulate efficiently. The decisions of the Supreme Court in the Minnesota rate case and in the Shreveport case indicate clearly that Congress has ample power when it chooses to exercise it. Heretofore it has not chosen to exercise it fully.

Work of the Interstate Commerce Commission.

The agency through which Congress acts in regulating the rates and practices of the railroads is the Interstate Commerce Commission. The work of this Commission is of the utmost importance to the entire nation and of tremendous proportions. The annual report of the Commission for the year ending October 31, 1915, shows the following work performed by it during that year:

Number of hearings conducted..... 1,543
 Testimony taken in above hearings, pages..200,438

These hearings and this testimony are only the preliminary work, the basis for consideration and decision of the matters at issue.

Cases in which oral arguments were heard. 198
 Number of days sitting in above cases..... 103
 Separate complaints entered upon its "informal docket" 6,500
 Applications entered upon "formal docket". 6,690
 Orders made under the "long and short haul" clause 822
 Number of rate schedules filed.....149,449

The Commission hears as many arguments as the Supreme Court of the United States.

Considers applications for exemption from rules established by itself and Congress.

Conducts a bureau for the detection of infractions of the law.

Initiates and supervises criminal prosecutions.

Supervises the accounting of more than 2,000 corporations.

Inspects the equipment, signals and other appurtenances of the railroads.

Enforces regulations concerning hours of railroad labor.

Collects comprehensive statistics of railroads, tabulates and publishes them.*

It undertakes such special investigations as that of the financial operations of the New Haven system; the shortage of cars during the threatened coal famine; the embargo of the railroads occasioned by the recent unprecedented movement of war supplies for Europe; answers numerous inquiries from Congress.

As if these tasks were not large enough, Congress has directed it to make a valuation of the 250,000 miles of railroad, worth perhaps twenty billion dollars. This is by far the largest undertaking of its kind ever attempted in the world.

This is only a partial list of its duties in connection with railroad regulation. In addition, it regulates telegraph, telephone and pipe lines, as well as express companies.

Overburden of the Commission.

It is of course impossible that the seven members of the Commission should read 200,438 pages of testimony, consider personally all of the complaints, applications and orders or even see a small

The foregoing data as to the work of the Commission are taken from an article appearing in the "World's Work," February, 1916, by Mr. Otto H. Kahn.

part of the 149,449 tariff schedules, some of which contain hundreds of pages of printed matter.

The tremendous volume of work to be supervised necessitates the assignment of many important hearings and investigations to minor officials and clerks, whose views must necessarily have an important influence on the decisions of the Commission. The Commission has shown a wonderful capacity for work, but the task is beyond the power of any seven men, whatever their capacity. If to this we now add the work which the State Commissions have heretofore attempted to perform, the present organization of the Interstate Commerce Commission will be overwhelmed.

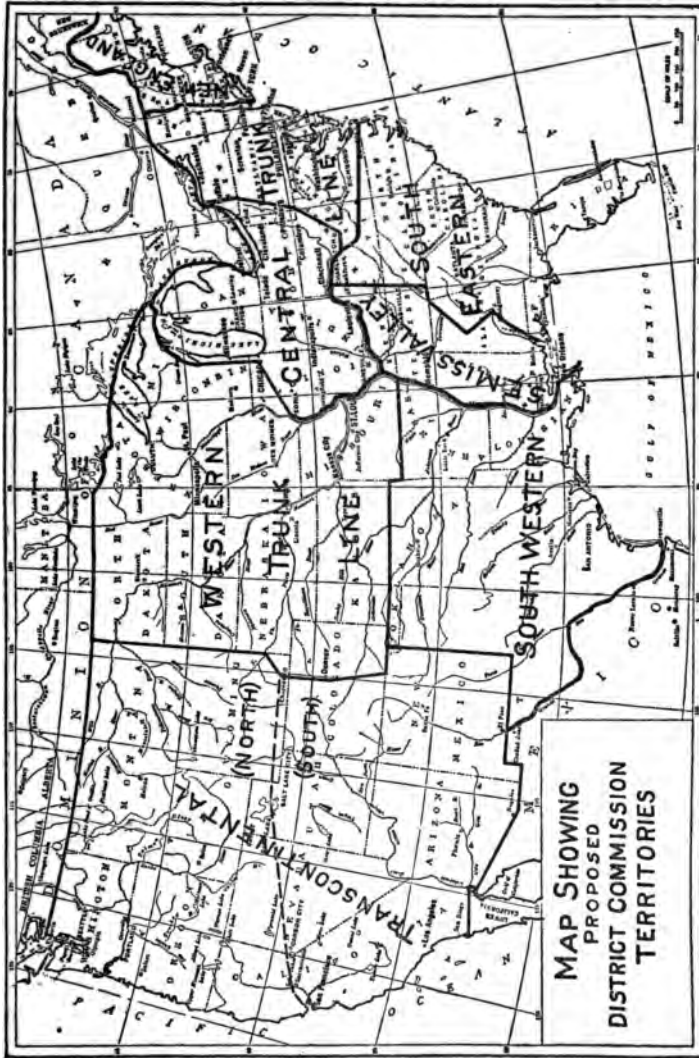
Reorganization of the Interstate Commerce Commission.

The area served by the railroads of the country is too large for efficient regulation from Washington alone. It does not admit the close contact of major officials with conditions peculiar to various districts.

Major Traffic Territories.

The railroads, in dealing with traffic matters, have divided the country into eight major traffic territories, viz: New England, Trunk Line, Central Freight Association, Western Trunk Line, South-Eastern, South-Eastern Mississippi Valley, South-Western and Transcontinental. This subdivision of territories is shown on the map. The character of traffic is homogenous in each district, but that of each district varies from the others in some particulars.

In New England, the principal natural resources are timber and stone. Owing to cheap and abundant water power and favorable labor conditions, its traffic is principally that incident to diversified man-



ufacturing. Its principal seaports are Boston and Portland. The principal features of its railroad geography are radial lines diverging from its seaports.

The most important natural resources of Trunk Line territory are coal, petroleum and lumber. There are immense mining and manufacturing interests in this territory. Its principal seaports are New York, Philadelphia, Baltimore and Norfolk. The distinctive feature of its railroad geography is many east and west trunk lines, practically parallel, connecting its seaports with the interior.

In Central territory, the most important agricultural and natural resources are Corn, Grain, Cattle, Coal, Petroleum and Lumber. It also has large and important mining and manufacturing interests. The principal feature of its railroad geography is a large number of north and south lines connecting the Great Lakes with the Mississippi and Ohio Rivers. These are crossed by the east and west trunk lines, extended westward from Trunk Line territory, which gives a general gridiron effect to the map of its railroads.

The traffic moved within and between these three territories constitutes more than 50% of the entire traffic of the whole United States. Their traffic density is very much greater than that of the other territories.

The most important agricultural and natural resources of Western Trunk Line territory are Corn, Grain, Cattle, Copper, Iron and Zinc. Manufacturing is not nearly so important as in the territories to the east, its paramount interest being agricultural. The distinctive feature of its railroad geography is a large number of lines radiating from Chicago and St. Louis as centers.

In South-Eastern territory, the most important agricultural and natural resources are Cotton, To-

bacco, Fruits, Lumber, Turpentine and Phosphates. It has an important cotton manufacturing industry in the eastern portion and important mining and manufacturing interests in the Birmingham and Chattanooga districts. Its principal seaports are Charleston, S. C., Savannah, Ga., and Pensacola, Fla. The principal feature of its railroad geography is a number of railroads diverging from such centers as Birmingham and Atlanta, extending to the Atlantic, the Gulf and toward the Ohio and Mississippi Rivers.

The most important resources of South-Eastern Mississippi Valley territory are Cotton, Tobacco, Rice and Lumber. Its principal interests are agricultural, manufacturing being comparatively of little importance. Its principal seaports are New Orleans and Mobile on the Gulf of Mexico. The principal feature of its railroad geography is several north and south systems of railroads paralleling the Mississippi River, connecting the states in the Mississippi Valley with the Gulf ports.

In South-Western territory, Cotton, Rice, Cattle, Lumber and Petroleum are the most important agricultural and natural resources, the manufacturing interests being comparatively unimportant. Its principal seaport is Galveston, Texas, on the Gulf of Mexico. Its geography shows railroads diverging in all directions from such interior points as Dallas and Fort Worth. Galveston is also a center for many radial railroads. There are two important transcontinental systems running east and west through the territory.

In Transcontinental territory the agricultural, live stock and lumber interests are the most important. Its principal agricultural and natural resources are Grain, Fruit, Lumber, Cattle, Sheep, Wool, Copper and precious metals. It has an important min-

ing industry; its manufacturing interests are confined to the Pacific coast. Its principal seaports are San Francisco and Seattle. Its average traffic density is markedly less than that of any other territory. The distinctive feature of its railroad geography are parallel east and west trunk lines connecting the Mississippi Valley with the Pacific Ocean.**

Proposed Representative District Commissions.

In order to maintain the desired close contact of responsible officials with the conditions peculiar to the various districts or territories, it is suggested that the present Interstate Commerce Commission should be expanded by creating eight District Commissions of seven members each, with jurisdiction over the eight territories just described. The present Interstate Commerce Commission at Washington should have supervision over the eight District Commissions, through power of review, co-ordinating their work and unifying their practice to prevent discrimination

**While the traffic in Transcontinental territory is comparatively less dense than in the other territories, and for that reason does not require so much attention for a given mileage of lines, the area involved and consequently the long distances between points within the territory and the city chosen as its headquarters, may necessitate the forming of two territories, rather than the one here described as Transcontinental.

In that case, two territories should be formed, called say North Transcontinental and South Transcontinental, the line of the Union and Southern Pacific constituting, in the main, the boundary between the two, those two systems and the Western Pacific being included within the southern territory.

by action of any one or more District Commissions against the other territories.

The organization of each of the District Commissions should be along the lines of the present Interstate Commerce Commission, except that its seven members should be more representative. It should be possible to secure men with broad experience as to the needs of shippers, one for the mining, manufacturing and merchandising and one for the agricultural interests; one experienced in the needs of railroad labor; one with broad experience in railroad administration; one each from the professions of law, engineering and finance, to secure the technical knowledge required in adjusting the various interests of the district.

There is usually a difference of opinion as to the proper apportionment of transportation cost between two broad classes of shippers, viz., those having agricultural and live stock interests, on the one hand, and those interested in industrial and commercial enterprises, on the other. The views of railroad employees and officials in regard to wages and working conditions are divergent; their adjustment is the subject of frequent discussion by them.

Evidently shippers are interested in wages and working conditions as they affect rates. The general tendency of their efforts would be to keep wages low, so that rates might be as low as possible. Railroad employees and officials are interested in rates because they affect wages and the results of operation. Their efforts would naturally be directed toward making rates high, so that wages might be high and net results of operation as favorable as possible.

Each party in interest is entitled to a presentation of its views. Discussion of the various conflicting interests, by those familiar with the condi-

tions to be met, should result in a fair adjustment of rates between different classes of shippers and a proper relation between the rate schedule as a whole, on the one hand, and net operating results on the other.


The proper relation of the net financial results of operation to general business interests and to railroad credit, is a proper study for a financier. The return must not be so high that general business is unduly taxed nor, on the other hand, so low that railroad credit is injuriously affected.

In the matter of constructing new lines and of providing improvements and additions for existing lines, the judgment of the engineer is valuable in considering the proper relation between cost and the amount of proposed issues of new securities.

The experience of the lawyer would be directed toward determining the facts relating to these various matters—through properly conducted hearings and investigations—and formulating the decisions of the commission legally.

The experience of individual members of the commission would give it, as a whole, a wide experience in the needs of the public and technical knowledge pertaining to the many sides of railroad operation and construction and its proper relation to business. It would restrain the selfishness of particular interests on the one hand and correct the narrowness of technical and specially trained men on the other.

It will be noted that the membership of the commission is so balanced that there is no danger that the bias of any one of its members, or a natural combination of them, will give any particular interest a predominating influence in the decisions of the commission as a whole.



The shippers provide the revenue of the railroads and are represented by two members; the railroads spend the revenue in operation and paying interest on investments in the property and they are represented by two members. It is in the interest of shippers that improvements of existing lines and extensions into new territories be made, in order to provide for expanding business and for development of new trade as rapidly as possible. This interest, if unrestrained, might lead to over-expansion of railroad facilities; the railroad executive and the financier would appreciate such danger and serve as a check on the shippers. On the other hand, an ultra conservative policy in regard to extensions and improvements would bar expansion and extension of trade; this tendency would be checked by the needs of the shippers.

The first and most natural objection which would present itself in investigating the feasibility of appointing such a representative commission as the one proposed, is that the members would have had no previous experience in rate regulation. It is to be remembered in this connection, that only an occasional member of the Interstate Commerce Commission had ever had experience in rate regulation, prior to his appointment, and yet collectively they have become perhaps the most expert rate regulating body in the world.

The conditions existing at the time of organizing the District Commissions would be, that all rates in the territory had been previously established, the regulating duties of the commission being to keep them properly adjusted to each other. Neither railroads nor commissions have very much power in making rates. In the vast majority of cases, commercial conditions—over which neither of them have any control—make rates; the work of regu-

lation consists in keeping rates adjusted to **changing business conditions**. This applies not only to the through rates but to the larger part of local rates as well.

In such matters, the new District Commissions must be trained through experience, just as the Interstate Commerce Commission has been trained and brought to its present state of efficiency. The new commissions will have the benefit of the experience and general direction of the Washington commission. Further, there must be some members of existing State Commissions, with a very considerable and valuable experience, who could fill most acceptably the requirements of membership in the new District Commissions.

In the interest of the public and the owners of the railroads, national regulation must be accompanied by supervision of the issue of new railroad securities. This will be new work for both the Washington and the proposed District Commissions, and it will be a most important part of their duties. The matters involved in such supervision are well within the experience of such a commission as that outlined.

The present State Commissions are much more representative of various interests than is the present Interstate Commerce Commission. The principal objection to regulation under one national commission is its lack of intimate knowledge and close contact with the peculiar needs of the various territories, which only local residence can give. There is the further objection that a commission in which lawyers predominate has not, through lack of experience, the breadth of view which is necessary in dealing with such a diversity of subjects as a regulating commission is called upon to consider.

Under these conditions, it is probable that the several states will strenuously antagonize any plan for nationalizing regulation which does not provide a resident, representative commission for each territory—such territory being compact, of reasonable area, and composed of states in which the business and railroad conditions are generally similar.

The appointments to District Commissions would be made by the President and the tenure of office should be long in order that the commissioners be relieved from harmful local political pressure, in so far as that is possible. It should be possible to build up an organization which would be as effective in each district as the present Interstate Commerce Commission has become in its wider field.

Railroad Representation on Commissions.

There can be no reasonable objection to having men trained on the railroads as members of such commissions. Practically all executives of railroads are men who have worked up from the ranks through force of native ability and integrity. They have had no "pull." The interests at stake are so large on a large railroad system that its owners can not afford to have men of unproven ability. The same is true of the leading representatives of railroad labor.

As a class, railroad executives and the heads of railroad labor organizations are intelligent, broad-minded and as patriotic as any other class of men. Men who serve railroads and their fellow-employees well, will serve governments well, if they can be induced to accept service.

In organizing the boards to regulate banking, the members were selected on the ground of previous experience in practical banking. The

country assumed, as a matter of course, that such men would be valuable on banking boards. The same principle should apply in organizing commissions regulating railroads. It is absurd to omit railroad men from such commissions.

Financial Responsibility for Regulation.

Turning to the actual work of the commissions in regulating railroads, let us examine its principal features on broad lines.

The government in regulating rates controls the revenues of the railroads. Through regulation of railroad operation, it controls, to a large extent, railroad expenditure. It is not responsible for the financial results of such regulation, the owners of the property assuming that obligation.

The only restraint on the regulating powers of the government is that the revenues as a whole shall be such that the property is not actually confiscated. That is, so long as a railroad makes a bare living—pays a return on its value just short of confiscation—the owners of the property can not interfere with the regulation.

It is economically impossible that a business be prosperous if its owners can control neither income nor out-go, but are compelled to accept financial responsibility for the results of operation. Any business that barely misses bankruptcy can not have financial standing—the credit—required for conducting a successful business.

Such was the condition of the business of the railroads of the country at the end of the fiscal year 1914, and the same conditions may reasonably be expected to obtain shortly after the close of the European war, which has caused a temporary and abnormal stimulation of railroad traffic. When the surplus accumulated through this war traffic has dis-

appeared—as the former surplus of the railroads had disappeared in 1914—we will confront the same problem again. The proper solution of it should be found before that transpires.

Government Guarantee of Interest and Dividends.

It is a cardinal principle of all business that the agency which exercises authority over income and out-go is held responsible for the net results. Applying this to the railroads, if government regulates income and expenditure it should guarantee results—guarantee a return on the value of the property it regulates, or lacking accurate knowledge of actual value, guarantee the interest and dividends on the securities of a railroad, unless the face value of its issues is palpably largely in excess of real value.

In doing this it would only be putting into practical effect what constitutional provisions require that it must do—that is, pay the owners fairly for the public use of railroad property. A decision of the Supreme Court of the United States handed down in 1894, the opinion being by Mr. Justice Brewer, defines this obligation of government clearly:

“The equal protection of the laws—the spirit of common justice—forbids that one class should by law be compelled to suffer that others may gain. If the state were to seek to acquire title to these roads, under its power of eminent domain, is there any doubt that constitutional provisions would require the payment to the corporation of just compensation, that compensation being the value of the property as it stood in the markets of the world and not as prescribed by an act of the legislature? Is it any less a departure from the obligations of justice to seek to take not the title but the use for the public benefit at less than its market value?

"Property invested in railroads is as much protected from public appropriation as any other. If taken for public uses, its value must be paid for. Constitutional guarantees to this extent are explicit";
*** * * "The value of the property cannot be destroyed by legislation depriving the owner of adequate compensation."**

This decision does not say that the government shall guarantee interest on railroad securities, but it does say clearly that government regulation shall be such that the net revenues from railroad operation shall constitute a fair return on the value of railroad property. So long as the amount of the issue of railroad securities does not exceed the value of the property, the government regulation must provide a sufficient net revenue to pay the interest on such securities.

Why not recognize this responsibility definitely and give practical effect to this constitutional provision by declaring that the government guarantees that its regulation will be such as to produce a net revenue sufficient to pay the interest on the securities of all fairly capitalized railroads which serve the public beneficially? Some very important public benefits would result from the adoption of such a policy.

Railroad Credit.

Credit is indispensable to the successful conduct of railroad business and the public is vitally interested in railroad credit, as it affects the cost of its transportation. If the Federal Government guaranteed the interest on new issues of railroad securities, new capital required by the railroads could be obtained at the lowest possible rate of interest. Without such guarantee it will be difficult, in some

cases impossible, to obtain new capital, and in all cases the rate of interest charged will be higher.

The normal requirements for new railroad capital are large. Mr. James J. Hill some years ago estimated that our legitimate annual needs for new railroad capital were at least 1,000 million dollars and some time after increased the estimate to 1,250 million. A large portion of the public press considered this estimate as grossly in excess of actual requirements and treated it humorously for a while, but subsequent events have proven his estimates very conservative.

That new capital has not come forward for investment in as large amounts as conditions require is shown by the fact that from 1903 to 1913, the tonnage of railroad traffic moved increased 78% while construction only increased 17%. The construction of new railroads has been practically abandoned for several years past. This means that in addition to normal future requirements, some allowance must be made for "catching up" in the future for the present and preceding period of retarded railroad construction.

Existing railroads need additional facilities—double tracking of main line and in some cases third and fourth tracks, increase in the mileage of yard tracks, in terminal facilities and in many other directions. At the present time in Chicago alone, 65 million dollars is being expended to improve the terminal used by four roads, 20 million is being considered for that of another road. Mr. Charles Francis Adams stated in a letter to the President, not long ago, that 100 million dollars of new capital was immediately required by railroads in and near Boston.

Electrification of city terminals, elevation of tracks through congested city districts, and aboli-

tion of grade crossings in all districts, are being demanded by the public with growing insistence. The demand for new capital for these purposes is enormous.

In addition there are, as heretofore stated, vast areas in the West, with great natural resources and with insufficient transportation facilities, or none at all. In many districts in and east of the Mississippi Valley, already partly developed, additional railroads are needed for the proper development of the country. Thousands of miles of railroads must be built, if these needs are to be met, and the potential trade of these districts can not be developed until they are met. New capital, in large amounts, will be required for this purpose.

Enormous World-Wide Demand for New Capital.

The world's available new capital has been estimated at 4,000 million dollars annually. Countries like France and Belgium which have heretofore contributed largely to this new capital will be unable to do so for some years to come.

The cost of the European war from its beginning to date can not be stated, as very large revenues have been raised by extraordinary internal taxation. The **increase in the national debts** of the belligerent nations is estimated by our Federal Reserve Board as follows:

**Estimate of
Increase in National Debts Due to the European War
By the American Federal Reserve Board**

(As stated in press reports in January, 1917)

From beginning to year 1916:

Country—	Amount
Great Britain, November 11.....	\$13,253,358,000
France, August 31.....	8,038,500,000
Russia, December 31.....	7,973,274,000
Germany, October 27.....	15,260,000,000
Austria, May	3,716,200,000
Hungary, May	1,214,000,000
Total.....	\$49,455,332,000

Should the war continue until the fall of 1917, and the same rate of increase continue, the national debts of these principal belligerents will have been **increased** by practically 70 billion dollars. The funding of this increase alone will require all of the estimated available new capital of the whole world for a period of more than 18 years following the close of the war.

To the estimate of the amount required for funding this increase in national debts must be added the enormous cost of restoring industries and improvements destroyed by the war. A further addition for the normal requirements of non-belligerent nations must be included in the estimate of the total world demand for new capital.

The world has no previous experience with figures of such magnitude. It requires no gift of prophecy, however, to state, without reservation, that **credit will be stretched to the breaking point** for many years to come. There is no doubt that these conditions will force groups of foreign nations into international agreements regarding the funding of

these debts and supplying the capital needed in reconstructing the ruined improvements and industries of various countries. That is, various nations must combine their credit and resources and act as a unit in adjusting their financial affairs.

Some of our largest railroad systems have been considered strong in the financial world in the past, but the strongest of them will be as weak as a new born baby in competing with these combinations of wealthy and powerful nations for new capital. As heretofore stated, the credit of the railroads, prior to the war, had been very seriously impaired. What will their position be after the war, in the face of such powerful competition and compelling necessity of foreign countries for new capital?

Lack of Railroad Credit Precludes Trade Expansion

The railroads seeking the large amounts of capital needed for expansion and extension of existing facilities, must meet world-wide competition in securing it. Without government guarantee of interest, their ability to borrow in large amounts is extremely doubtful and it is certain that the rates of interest charged will be greatly in excess of existing rates.

In the face of such conditions, railroads can not expand the facilities of existing lines to meet expanding business and extensions must certainly wait for many years. This means a lack of transportation facilities which will bar the expansion of present business and prevent the development of potential trade in our undeveloped districts for many years to come.

In the 70's and early 80's they burned corn in some of the western states because the cost of growing and transporting it to market exceeded its market value. That is, a needed commodity, through

lack of transportation, had little or no value at its point of production.

In 1912, in northern Wyoming, the fields were covered with stacks of the finest alfalfa, which could not be sold there at \$5 per ton, while in Denver, a few hundred miles away, it was selling at \$25 per ton and farmers all through the west were selling cattle at lowered prices because the price of feed was high. The needed railroad connection, of comparatively small mileage, had not been constructed and the alfalfa stayed in the fields in spite of the great near-by demand. The new settlers needed the money badly and it would have relieved the pinch of their poverty; the cattle feeders needed their feed badly and yet the needs of neither were met.

During the whole of the year 1916 our commerce, while large, has been restricted through the lack of transportation facilities—additional main line tracks, terminals, yards and equipment—because new capital has not been available for constructing them during the last few years. Can we learn nothing from our experience?

We can not go on indefinitely with our commercial and industrial expansion without providing means for transporting our commodities from point of production to the place of consumption or export, and we cannot have these needed means of transportation without the expenditure of enormous sums of money. We can not obtain the money without railroad credit.

From whatever angle our transportation problem is viewed, railroad credit looms ominously above all of its other features. At first sight, a proposal that the Federal Government guarantee interest on the issue of railroad securities will seem very radical to most Americans, but when we consider that our national prosperity for the future is so largely depend-

ent on railroad credit and that the future competition for new capital will be keen and of world-wide proportion for many years, it is apparent that a drastic measure is justified, in as much as the end sought—national prosperity—is so vitally important.

Unequal Earning Power of Railroads.

The business conditions surrounding individual railroads vary widely, just as they do in the case of individual firms or corporations. One railroad may serve a territory producing a dense traffic, and the contour of the country be such that the cost of construction has been comparatively small; another railroad serving the same general territory, through necessity, may have a less favorable location and the cost of building therefore has been much larger; still another railroad may traverse a territory of thin traffic and, on account of unfavorable topographical conditions, the cost of construction has been very large.

With the same general level of rates applied to the traffic of these three railroads, the return on the money invested in the first will be the largest, on the second it will not be so large and on the third it will be the smallest. It is impossible that the roads earn the same return on the money invested in them if the rates are on the same general level for all of them. It is commercially impossible to adjust the freight and passenger rates so that the rate of return shall be the same for each road.

A few illustrations will serve to show the impossibility of all railroads in a given territory earning the same return under the same general level of rates.

The Delaware, Lackawanna & Western and the Lehigh Valley are two railroad systems serving the

same territory. They both carry enormous tonnages of anthracite coal between the mines and Lake Erie ports, on the one hand, and eastern cities on the other. The classification of the traffic of the two roads, however, is dissimilar, as the following statement as to percentages of various commodities shows:

	D. L. & W.	Lehigh Valley
Products of Agriculture.....	17.8%	10.2%
Animals.....	3.1	1.8
Mines.....	29.9	64.0
Forests.....	4.7	2.7
Manufactures	23.7	13.0
Merchandise	11.5	} 8.3
Miscellaneous	9.3	
	<hr/> 100.0%	<hr/> 100.0%

Their earnings and various other operating factors are as follows:

(For the year 1914)	D.L.&W.	Lehigh Valley
Average train load....	655 tons	622 tons
Average freight rate per ton-mile	0.665 cents	0.661 cents
Earnings per freight train mile	\$4.63	\$4.09
Gross earnings per mile of road	\$39,845	\$29,285
Net earnings per mile of road	14,041	8,390
Ratio of operating ex- pense to gross earn- ings	64.76%	71.35%

The average haul on all freight is practically the same for both roads. The average freight rate per ton-mile is practically identical, as shown above.

While they serve practically the same territory the D. L. & W. earns \$10,560 gross and \$5,651 net more per mile than does the Lehigh Valley, because its business is larger and its operating ratio is 6.59% less.

Both roads are most efficiently operated. The rates can not be so adjusted that the Lehigh Valley will earn as much per mile as the D. L. & W. If the Lehigh raised its rates for the purpose of increasing its net revenue, it would get none of the competitive business, which is by far the greater part of the total traffic. That is, commercial conditions preclude equal net earning power for these two roads.

The Chicago, Burlington & Quincy and the Chicago & Northwestern are both large systems and serve the same general territory. The earnings and various operating factors for the two systems are as follows:

(For the year 1915)	C. B. & Q.	C. & N. W.
Average train load....	491 tons	360 tons
Average freight rate per ton-mile	0.733 cents	0.87 cents
Average haul on freight	269 miles	154 miles
Earnings per freight train mile.....	\$3.604	\$3.009
Gross earnings per mile of road.....	\$9,757	\$9,963
Net earnings per mile of road	3,285	3,010
Ratio of operating ex- penses to gross earn- ings	66.33%	69.79%

The higher ton-mile rate of the C. & N. W. is due principally to the fact that its average haul is shorter. The rates are on the same general level

for equal or similar service. Both roads are efficiently managed. The C. & N. W. earned **gross** \$206 per mile more than the C. B. & Q., but the latter earned **net** \$275 per mile more, as the percentage of its operating expenses to gross earnings was 3.46% less. As they occupy much the same territory the cost of constructing and equipping them has probably been very nearly the same amount per mile of line.

Considering the mileage of the two, 8,107 and 9,364 respectively, it is rather remarkable that their gross earnings and operating ratios should be so nearly alike. One road is more favorably situated to the extent that its operating ratio is lower than the other. It is not commercially possible to so adjust the rates that they both will earn exactly the same return on the cost of constructing and equipping them.

The Union Pacific and the Denver & Rio Grande are located, in large part, in the same general territory. The classification of their traffic varies widely as shown by the following statement of percentages of various commodities carried:

	U. P.	D. & R. G.
Products of Agriculture.....	35.38%	6.8%
Animals.....	6.29	1.8
Mines.....	27.93	80.0
Forests.....	12.89	2.1
Manufactures	10.57	5.6
Miscellaneous	6.94	4.2
	<hr/>	<hr/>
	100.0%	100.0%

Their earnings and various operating factors are as follows:

	U. P.	D. & R. G.
Year 1915		
Average train load....	442 tons	383 tons

	U. P.	D. & R. G.
Average freight rate per ton-mile	0.968 cents	1.19 cents
Average haul on freight	357 miles	131 miles
Earnings per freight train mile	\$4.21	\$4.54
Gross earnings per mile of road	\$11,171	\$8,486
Net earnings per mile of road	4,473	2,930
Ratio of operating ex- penses to gross earn- ings	59.96%	65.48%
Capitalization per mile of road	\$86,355	\$81,850

In spite of the fact that it carries so high a percentage of products of mines, the average freight rate of the D. & R. G. is higher than that of the U. P. While the capitalization of the D. & R. G. is almost as high as that of the U. P. its grades are steeper and its other operating conditions less favorable so that its average trainload is less. On account of its connections, the U. P. does more business, that is, its gross earnings per mile of road are larger. On account of its superiority in operating conditions and larger business, its net earnings are \$1,543 per mile larger than those of the D. & R. G.

The Union Pacific and the Northern Pacific systems serve territories very similar in their physical characteristics and in the character of the traffic. Their earnings and various operating factors are as follows:

Year 1914	U. P.	N. P.
Average train load...	430 tons	575 tons
Average freight rate per ton-mile	0.978 cents	0.854 cents

Average haul on freight	U. P. 360 miles	N. P. 293 miles
Earnings per freight train mile	\$4.19	\$4.84
Gross earnings per mile of road	\$12,089	\$10,863
Net earnings per mile of road	4,831	4,280
Ratio of operating expenses to gross earnings	60.04%	60.50%
Capitalization per mile of road	\$86,355	\$87,011

The rates of both are on the same general level. The ratio of operating expenses to gross earnings is practically the same for both roads. Both are efficiently operated. The Union Pacific **earns net** \$551 per mile of road more than the Northern Pacific because it does a larger business by \$1,226 per mile. They are both capitalized at practically the same amount per mile.

It is evident in the cases cited that with the roads operating under the same general level of rates and with equally efficient operating organizations, the Lackawanna's net earnings per mile will exceed those of the Lehigh, the Burlington's those of the Northwestern and the Union Pacific's those of the Northern Pacific.

Fair Return for Use of Railroad Property.

If the rates are adjusted so that the most favorably situated roads are allowed to earn just a bare fair return, then the three less favorably situated roads must earn **less** than a fair return—that is, they will be confiscated to the extent that their net earnings fall below a fair return. The Constitution specifically provides that this shall not be done.

If the rates are so adjusted that the Lehigh, the Northwestern and the Northern Pacific earn a fair return, then the more favorably situated Lackawanna, Burlington and Union Pacific will earn more than a fair return. The less favorably situated roads serve the public beneficially just as the three more favorably situated roads do. All of them are indispensable to the commerce and the social welfare of the territories they serve. Under these conditions they are all clearly entitled to earn a fair return on their value. It is equally clear that the Lackawanna, Burlington and Union Pacific must earn more than a bare fair return in order that the other three roads be allowed to earn their fair return.

Capitalization Not Based on Earning Power or Value.

Comparing further the railroads used in the foregoing illustrations we find that their capitalization is not based on their net earning power. The following statement shows the capitalization and the net earnings per mile—the latter being the average for the ten-year period 1906-1915.

	*Capitalization per mile 1914.	Net earnings per mile. Aver. 10 yrs.
Delaware, Lackawanna & Western.....	\$44,464	\$17,517
Lehigh Valley.....	95,652	9,132
	<hr/> \$51,188	<hr/> \$ 8,385
Chicago, Burlington & Quincy.....	\$34,363	\$2,920
Chicago & Northwestern.....	45,143	2,970
	<hr/> \$10,780	<hr/> \$ 50
Union Pacific	\$86,355	\$5,736
Northern Pacific.....	87,011	4,796
	<hr/> \$ 656	<hr/> \$ 940

*From "Railroad Valuation and Rates," by Mark Wymond—Wymond & Clark, Chicago.

The Lackawanna is capitalized at \$51,188 per mile less and earns net \$8,385 per mile more than the Lehigh Valley. The Burlington is capitalized at \$10,780 less and has earned net only \$50 per mile less than the Northwestern. The Union Pacific is capitalized at \$656 less and earns net \$940 more per mile than the Northern Pacific. It will be noted in two cases that the roads of greater net earning power have the smaller capitalization.

The value of all of the roads probably exceeds their capitalization; it is very much greater in the case of the three with the lowest capitalization. All of them have paid for improvements and extensions from earnings, without increasing their capitalization in an amount equal to the value of the improvements and the increased value* of the property.

Proposed Method of Establishing Fair Return.

The real value of these roads will not be determined until the valuation of the railroads now being made by the Interstate Commerce Commission shall have been completed some years hence. The value being unknown at present and the capitalization being evidently less than the real value, some standard must be fixed for gauging the amount of the fair return to the roads pending the final determination of value by judicial authority.

As a tentative plan for discussion, it is suggested that the general average net earnings per mile for the preceding period of ten years be used as a basis for establishing the fair return on value of railroad property used. As to the older roads the applica-

*Increased value of railroad due to increase in value of real estate and other items of the same nature.

tion of such a basis should be a simple matter usually. In some cases of older roads and of all comparatively new roads, variations from the general plan would be necessary to meet peculiar situations.

The C. B. & Q. is one of the older systems which probably should have somewhat different treatment than the general one here outlined. Its smaller net earnings per mile during the years 1906-1910 are probably due to the fact that a considerable part of its mileage of new road was constructed in undeveloped far western territory just prior to that time. The deficits from operation of new lines during the development period have reduced the net earnings of the system, as a whole, for the years 1906-10. If on investigation of any property such a condition can be shown to have existed, the average should be determined on some other than the 10-year basis, say the preceding five years in the case of the Burlington.

In order to show clearly just what is intended the following table is given showing, for a period of ten years, the net earnings per mile of the roads which have been used for illustrating this phase of the discussion.

Division of Profits of Transportation.

Let us assume that an arrangement had been made which provided:

(1) That all railroads serving the public beneficially be allowed to earn a fair return, determined as above outlined, when it is commercially possible for them to do so.

****Net Earnings Per Mile of Railroad.**

Year.	D. L. & W.	Lehigh Valley.	C. B. & Q.	C. & N. W.	Union Pacific.	North'n Pacific.
1906.....	\$18,265	\$ 8,844	\$2,550	\$3,189	\$5,932	\$5,578
1907.....	20,423	9,670	2,594	3,190	6,288	5,671
1908.....	18,741	9,163	2,506	2,828	5,941	5,036
1909.....	19,717	8,688	2,667	2,982	6,731	5,443
1910.....	18,932	10,058	2,755	2,877	6,889	4,950
1911.....	17,555	9,749	3,155	2,825	5,868	4,307
1912.....	14,537	8,381	2,874	2,672	4,977	4,193
1913.....	15,902	9,604	3,461	3,108	5,390	4,473
1914.....	14,789	8,455	3,349	3,006	4,859	4,280
1915.....	16,302	8,710	3,285	3,009	4,473	4,033
Aver., 10 years..	\$17,517	\$9,132	\$2,920	\$2,970	\$5,736	\$4,796
Aver., 5 years.....	.....	.....	\$3,225	.....	.....	.....

****The figures given in this table are to be used for the purpose of this illustration only. The reader is cautioned not to use them in any other connection. The methods of determining net earnings are not uniform, some authorities including items which are excluded by others. No deductions from gross earnings have been made for taxes and some other items in determining net earnings. The net earnings do not in all cases show the total net income available for taxes, rentals, interest on bonds, other fixed charges and dividends on stock—in fact, they seldom do so.**

The values shown here are the same as those given in "Moody's Analysis of Investments—Steam Railroads," 1916 edition, by Moody's Investors Service, New York.

(2) That any net earnings in excess of the fair return be designated the profit of transportation.

(3) That the profit of transportation be divided equally* between the government and the railroads.

Based on the preliminary reports of railroad earnings for 1916 as given in the Financial Chronicle for Aug. 10, 1916, the net earnings from operation were as shown in the following table. Using these for the purpose of illustration, the following division of profits of transportation would be as next shown:

Profit Sharing Statement.

(All figures are per mile for the year 1916)

	D. L. & W.	Lehigh Valley.	C. B. & Q.	C. & N. W.	Union Pacific.	North'n Pacific.
Net earnings....	\$20,693	\$9,903	\$4,081	\$3,622	\$5,815	\$5,469
Fair return.....	17,517	9,132	**3,225	2,970	5,736	4,796
Profit of trans- portation	3,176	771	806	652	79	673
Government por- tion of profit..	1,588	385	403	326	40	336

So long as the net earning is in excess of the fair return the application of the plan is simple. To show how it would be applied under other conditions, let us suppose that the net earnings of the Lehigh Valley in 1916 were the same as in 1915, viz, \$8,710 per mile.

As the fair return is \$9,132 per mile, the net earnings would be \$422 per mile less than a fair return (\$9,132—\$8,710). This would not necessitate the payment by the government of \$422 per mile

*For purposes of illustration only the division is made on percentages of 50%-50%. The question of the proper basis of division is, of course, open to discussion.

**C. B. & Q. fair return on basis of five year average.

under the provisions of the plan by which the government guarantees interest and dividends on Lehigh securities. The railroad has sources of revenue not derived from moving trains which would bring its total net revenue to \$10,615. Its total fixed charges—interest on funded debt, taxes, etc.—are \$6,087. The average dividend rate on its stock for ten years has been 7.6%, which would require \$3,184. The sum of the fixed charges and dividends is \$9,271 per mile or \$1,344 less than the total net revenue available for the purpose.

While the government would not be obligated for any payments on account of its guarantee of interest and dividends on securities, it would be under obligations to adjust the schedule of railroad rates, **as a whole**, so that the net earnings should equal the fair return. It would be in the financial interest of the government (the agent of the public) that it should do so.

Advantages of Profit-Sharing.

If the profits of transportation were divided between the public and the railroads, several desirable things would be accomplished: first, the public would be paid for the use of its credit in guaranteeing interest on railroad securities; second, the public and the railroads would be partners in the profits resulting from railroad operation; third, the public's participation in profits would assure just regulation of rates; fourth, the railroads would have an incentive to make their operation efficient, in order to obtain the largest possible profit.

Government Partnership v. Ownership

Particular attention is directed to this fourth benefit, as in it lies the principal difference between

government ownership of railroads and government partnership in railroad profits. Without a division of the profits of operation, which is the amount left after paying a fair return on the capital, there would be no incentive for the owners to operate the property efficiently, as their earnings would be a fixed amount not dependent on efficiency.

Under such a condition, it would evidently be a better policy for the government to buy the railroads outright and operate them. With the government guarantee of the interest on securities and a division of the profits between the government and the railroads, we obtain all of the advantages of government credit which government ownership could give and still retain the advantage of the more efficient operation of private owners.

Plan Provides for Extensions of Railroads.

There is a further advantage in this profit-sharing feature of the plan which relates to the extension of the railroads into new territories. It is rarely possible to earn a fair return on the money invested in such extensions for some years after their construction. The time required to bring them to a paying basis varies with the conditions prevailing in the territory served by the extension. A portion of the surplus accumulated from profits of operation in paying territory should be devoted to paying the early deficits of the extensions. In this way, a comprehensive plan for extension could be carried out in a shorter period of time and with greater financial safety than would be possible otherwise.

The plan is reciprocal, the public as a whole, aiding the public of an undeveloped territory in the time of its greatest need and receiving in return the benefits of increased trade as the new territory develops.

Whenever the surplus accumulated from operation becomes excessive in any particular territory, the general level of rates therein may be lowered. In fact, the condition of this surplus would soon become a true gauge of the fairness of rate regulation as a whole, an abnormal surplus indicating that the general level of the rates in the district was unduly high, the absence of a surplus indicating a rate level dangerously low. The surplus of the various districts would also indicate the relative fairness of rates in different districts, emphasizing any undue preference in one district as compared with the others.

It is probable that for many years to come, the better policy will be to use the surplus to encourage the extension of railroads into undeveloped territories, to develop new trade. Our need for such extension is very great and will continue to be so for some time. When in the future such needs shall have decreased somewhat, the surplus can be devoted to the amortization of the railroad debt. The plan is flexible, however, in that both extension and amortization can be provided for contemporaneously, if desired; it would require, of course, that the general level of the rates be higher than if amortization was deferred until extensions had been provided for.

Public Supervision Precludes Fraud.

As the accounts of all railroads must be kept in accordance with the uniform system prescribed by the Interstate Commerce Commission, and as such accounting is now under its general supervision, there could be no objection to the plan on the ground of "tricky" accounting, as the books of the corporations are at all times open to the inspection of the government.

National regulation of railroad rates and practices should include, of course, national supervision of the issue of railroad securities. The supervisory powers of the Interstate Commerce Commission in the matter of accounting, just referred to, would assure the application of new capital to the purpose for which it was obtained and there could be no gross fraud in connection with the construction of additional facilities or of new railroad lines.

Effect of Plan on Public Interest.

So far as the public is concerned, this plan puts the eggs of the public, in each district, into one basket—a commission of seven of its own best representative citizens—and allows it to concentrate attention on that one particular spot, instead of having it diverted to the proceedings of many independently-acting legislatures and commissions.

It will insure to each district consideration of its local and peculiar needs, and an accommodation of them, in so far as it may be accomplished without prejudice to national interest.

It will secure for the whole country the lowest possible rates compatible with fair treatment of the owners of the railroads; will remove the mutual suspicion of dishonesty and the interminable dissensions between such owners and the public, as their financial interests in the railroads will be identical.

It will secure for the public additional railroad facilities at the time and to the extent they are needed, to take care of expanding trade. It will assure needed extensions of the present railroad systems, within the shortest time practicable, in order that new trade may be developed as rapidly as possible.

Effect of the Plan on the Railroads.

As to the owners and responsible officials of the railroads, while their nominal independence of ac-

tion is greater under present conditions, their actual independence and power of initiative would be greater under the proposed plan.

Under the conditions existing for some years past, all of the economies effected by the expenditure of additional capital, accumulated surplus and the improved methods devised for increasing operating efficiency, have been more than absorbed by the increasing cost of railroad labor and material. There has been no commensurate increase in rates, and railroads have not received a proper return for their expenditure or any reward for initiating better operating methods. It is this condition that has destroyed the initiative of railroad executives and the faith of discriminating investors in railroad securities.

While the officers of the railroads believe this to be true, a very considerable majority of the public refuses to believe it and can not be forced to realize it until the public has a direct interest in the financial results of railroad operation.

Nobody loves a rich man; his woes are a public joke. Stealing from a large public corporation is not stealing, it is only getting back a part of what the corporation has heretofore stolen from the public. It is useless to tell the public of the hundreds of thousands of their fellow citizens who are owners of railroad securities and that a large part of them depend on the interest and dividends from these securities for their living.

The man in the street thinks only of the bloated bondholder who is rich because he is intensely selfish toward the balance of humanity, or dishonest in his dealings with the public. Tons of books and papers have been written to convince the public of the actual conditions, but the belief in this rich-man-bogey persists. The public as a whole is willing to

kick the shins of hundreds of thousands of perfectly good Americans—its own neighbors and friends—in order to “get at” this bogey-man who has treated it unfairly.

Instead of keeping up a hopeless fight, why not take advantage of the situation? While the public despises the selfish, dishonest rich man, it is perfectly willing to go into partnership with him in a business deal, provided it has a fair chance to profit by his business shrewdness without incurring any great risk in doing so.

If the public's book-keeper may examine the accounts, so that there can be no cheating, why not take what profit may be had, even though it is still to despise the rich man for his mean qualities. After all the public must look after its own material welfare; the first law of nature appeals forcibly to the public much as it does to the individual.

The weakening power of the railroads in dealing with their employees is a menace to the reasonable independence of railroad officials. It is due to the public's sympathy with labor's claims and its suspicion of corporations, both of which are based on sentimental grounds. With a direct interest in the financial results of railroad operation, it would judge the merits of controversies on the basis of actual conditions and from a business standpoint, rather than on sentimental grounds.

This is not an argument against increase in pay of railroad employees. Under changing social and business conditions rates of wages must be readjusted—usually increased. What this plan seeks to accomplish is to force on the public a realization of the fact that considerable readjustment of wages must be accompanied by readjustment of rates which the public must pay for railroad service. When the interests of the railroad and the public are identical,

both the pay of railroad labor and the regulation of railroad rates will have the intelligent and interested consideration of the public, which under present conditions is lacking.

Public Financial Control of Railroads.

In this connection, particular attention is directed to the fact that government guarantee of interest will make railroad shares very attractive to all classes of investors, including the smaller ones. This will cause a much wider distribution of railroad securities among the public. It should result finally in taking the control of railroads away from what is generally termed "Wall Street." That is, the people in any one of the districts named in the preceding discussion would naturally invest their savings in the securities of the railroads serving in larger part their own district, if the earning power of the securities was absolutely assured.

It is not possible to devise a better check on the efficiency of railroad administration and government regulation of rates than a general distribution of shares among the residents of various districts. There would be as many watch-dogs in each district as there were shareholders and their attention would be directed toward both railroad and government official action. Honest railroad officials and fair government commissions would welcome such attention; dishonest and inefficient railroad executives and unfair commissioners would be forced out through the harassing action of critical shareholders.

Restore Railroad Credit and Initiative.

When the government regulation provides for the proper adjustment of railroad rates to changing cost of railroad labor and railroad supplies, a

sound business basis is at once established, and unimpaired railroad credit must immediately follow it. Government guarantee of interest on railroad securities is a guarantee that such adjustment will be made when, and as often, as needed.

With the present disability of impaired credit and insufficient revenue removed, reasonable independence of action will be restored to railroad administration. There will then be an incentive for creative activity, for a vigorous constructive policy and a motive for increasing operating efficiency. Surely so desirable a result is worth the surrender of a part of what is in fact, under present conditions, only nominal independence.

Avoid Extended Litigation.

It is admitted that the railroads may stand on their constitutional right and demand a fair return on the value of their property, but the difficulty of reconciling different views of what constitutes a fair return and the interminable proceedings necessary before a judicial determination of the matter can be obtained are compelling reasons for adopting another plan if it be feasible. With the railroads and the public equally interested in the net results of railroad operation, the adjustment of differing views on all matters at issue can be more readily accomplished than in any other way.

Economies in Pooling Railroad Traffic.

Whenever operating efficiency can be secured by changing or abolishing existing laws, without endangering the public interest in other directions, such changes as are necessary should be made. Prohibition of certain railroad practices which were necessary in 1870 may be unwise in 1917.

Competition between railroads has had its place in our history, as it has been an important factor in increasing railroad efficiency. This efficiency has been gained at too great a cost, however, and it has been recognized for some time that it can not be continued indefinitely.

Experience amply proves that competition in the matter of **railroad rates** is against the public interest, the evils resulting from unnecessary duplications and discriminations in rates far outweighing any public benefits from competition. It does not seem to have been generally perceived, however, that **competition in service** is wasteful, in that it increases the cost of railroad operation unduly and that the benefits of such competition are not worth their cost.

As long as railroads were local and systems were generally small, the simple methods of handling traffic served fairly well. Since an enormous traffic has grown up and the margin of profit in transportation has become narrow, the need of different and improved methods has become apparent.

The practice of pooling freight and passenger traffic has been prohibited by the laws, and in some cases by the constitutions, of the states. Such abuses as grew out of the practice of pooling were due principally to the lack of publicity concerning its arrangements, as well as the lack of responsibility of individual members of the pool. The power of the states proved insufficient to cure the manifest abuses of the system and prohibition, rather than regulation, was applied.

Federal regulation of 1917 is very different from State regulation as applied thirty and forty years ago. The Interstate Commerce Commission now has very broad powers of regulation in preventing any

practice which is prejudicial to the public interest. Prohibition of pooling which was wise forty years ago is unwise now, because it increases the cost of transportation and is not necessary to protect public interest.

Reduction in Cost of Operation.

If all railroads were owned by one corporation, there are many ways in which the cost of operation might be reduced. If the traffic of all individual railroads was pooled, practically the same reduction in the cost of operation could be effected as if all of the railroads were owned by one corporation.

An illustration taken from "Railroad Valuation and Rates," by the author of this book, will serve to show some of the economies that may be effected by pooling:

"Between all large traffic centers, both as to freight and passenger traffic, there are several competing lines of railroads. In some instances one system has its own line extending from one to the other, and in others the through line will be operated jointly by two or more systems of railroads.

"Between Chicago and New York, there are four systems operating their own through lines and many joint lines, made up by the combination of two or more systems. Between Chicago and St. Paul-Minneapolis six systems operate their own lines; between Chicago and St. Louis there are five through lines; and the same is true between all traffic centers of much less importance than these, all over the country.

"If the six lines operated between Chicago and St. Paul were all owned by one company, the method of operation would be different and more economical than under the present six managements. The Chicago, Burlington & Quincy and the Chicago, Mil-

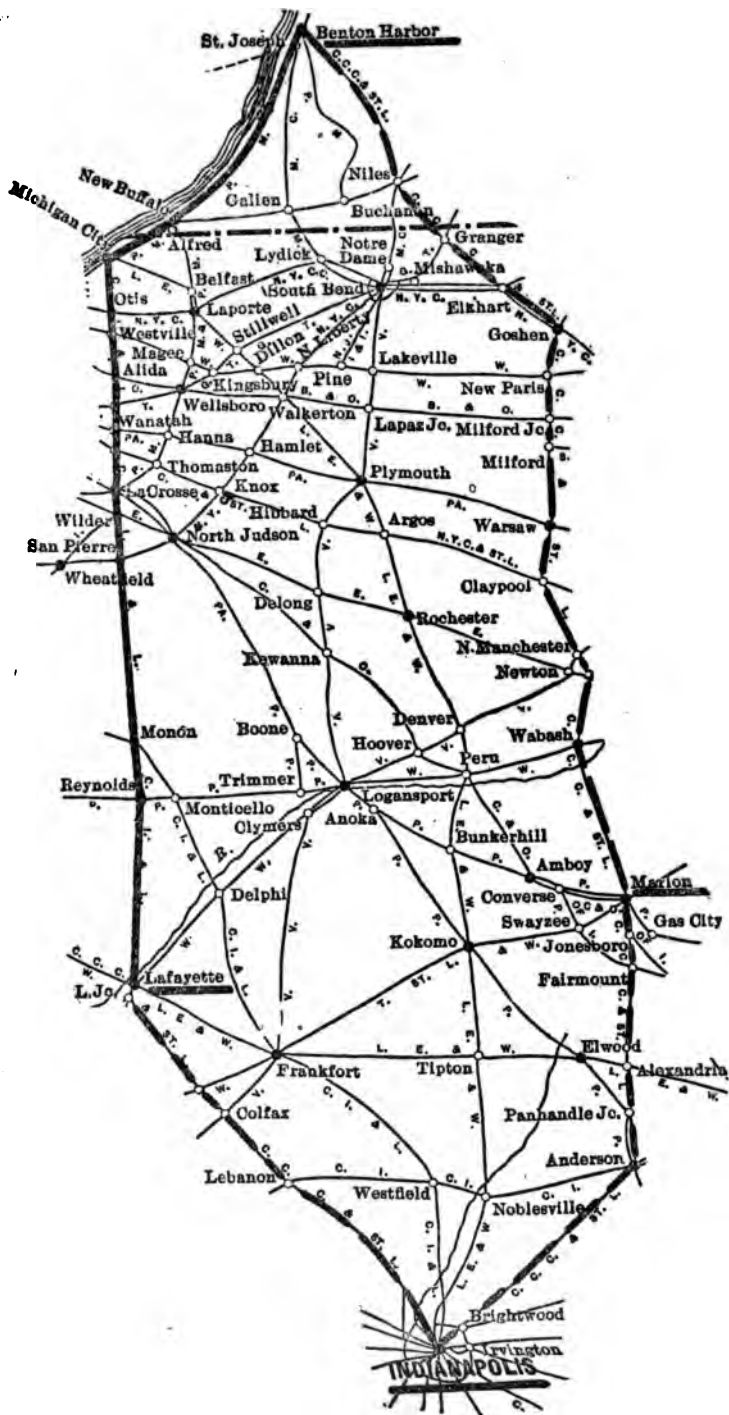
waukee and St. Paul have short lines, and, for much the greater part of the way, they have water grades. The Chicago & Northwestern has the shorter line, but heavier though not excessive grades.

"Evidently through freight traffic can be carried at less cost on the Chicago, Burlington & Quincy and the Chicago, Milwaukee & St. Paul than by the other four roads. If the **through freight traffic** were concentrated on these two lines, practically all of their through freight trains would be filled up to the capacity of their engines, and the whole through freight traffic could be hauled in fewer trains, with fewer train crews, and hence at less expense.

"The same is true as to the passenger traffic. Two or three of the lines would be found to carry the **through passenger traffic** at less cost than the others, and such traffic would be diverted to them. There would then be two or three lines moving through passenger trains, carrying something near their capacity, instead of five* lines, moving more trains, many of which are carrying cars only partly filled, which is the present condition.

"There is a further advantage in such an arrangement, in that during periods of maximum traffic movements the lines not ordinarily employed for through traffic would be utilized to move the **surplus**. This would avoid the necessity of constructing additional tracks and other facilities which would be required if one of the lines secured more than its share of the traffic."

*One of the six lines does not operate through passenger trains.



Long-Hauling of Freight.

Other economies, smaller in amount than those just mentioned, may be effected through the elimination of much of the present long-hauling of freight. The following is typical of conditions that exist very generally all over the country and particularly in the territory east of the Mississippi River.

There is a considerable traffic in various manufactured products from Lafayette, Ind., to points in Western Michigan. The distance from Lafayette to Benton Harbor, Mich., by the C. I. & L. and the P. M. Rys., jointly, is 122 miles; the distance between the same two points by the C. C. C. & St. L. is 265 miles, or more than twice the distance via the short line. Under present conditions, both the C. C. C. & St. L. and the C. I. & L. haul this traffic out of Lafayette, as the rate charged is the same by either line. Estimated on the basis of additional business, the C. C. C. & St. L. makes a very small profit in hauling such traffic as it secures. It is therefore justified under present conditions in competing for the business so long as there is any profit at all.

Economy in Capital Expenditure.

It is evident, however, that the C. I. L.-P. M. joint line can haul the traffic at less expense, the line being shorter, and it would haul all of it if the business was pooled. It is also evident that a given amount of traffic may be hauled over this shorter line by the use of **fewer freight cars**, as it requires more than twice as much time to move the cars over the longer as over the shorter line—the distance being twice as great.

The number of freight cars that could be eliminated by the pooling arrangement is not usually great for any one situation of this kind, but the

aggregate number which might be saved in the traffic movement of the whole country must be very large indeed.

It will be noted that the proposed plan reduces the amount of capital invested in the equipment, as well as the cost of operation. It is obvious that if there are fewer freight and passenger cars, the mileage of yard tracks required to contain them need not be so great. This saving in cost of tracks would further augment the saving of capital.

While the illustration given here relates to a saving in equipment and tracks, others might be given to show that the same conditions apply to the saving of other facilities required in transportation. It is impossible to state what this saving in operating expense and in the amount of capital required would be, in the aggregate, without an extended and costly investigation. Inasmuch as pooling promotes better service to the public, increases efficiency of operation and promotes the economical use of capital appreciably, it is worth adoption.

Summary.

Although it involves reiteration, let us summarize this discussion to bring out clearly the main features of the proposed constructive policy and show the relation existing between its various provisions.

Present Regulation Fundamentally Wrong.

The present system of regulating the railroads through 93 independently-acting bodies has resulted in patchwork regulation and discrimination against interstate commerce.

National Regulation.

Regulation to be efficient must be under one authority. Congress has sufficient power to regulate efficiently.

Overburden of the Interstate Commerce Commission.

Under present conditions the Interstate Commerce Commission is overburdened by a tremendous volume of very important work, which will be vastly increased when the entire work of regulation is assigned to it. Its volume precludes the personal attention of the Commissioners to many important matters, which must be relegated to minor officials and clerks.

Subdivision of the Country Into Districts.

The area of the country is too great for efficient regulation from Washington alone. It does not admit of close contact of major officials with local conditions peculiar to various districts. It is proposed to divide the country into eight homogeneous districts whose boundaries coincide with those of the present major traffic territories of the railroads.

Reorganization of the Federal Commission.

The present organization of the Interstate Commerce Commission is to be expanded by creating eight District Commissions of seven members each, the commission at Washington having supervision over these District Commissions, to co-ordinate their work, unify their practice and prevent discriminations between districts.

Representative District Commissions.

The organization of the several District Commissions is to be along the general lines of the Interstate Commerce Commission, except that it is to be representative of various interests within the district. The following interests are each to be represented by one commissioner: Agricultural ship-

pers; Industrial and Commercial shippers; Railroad labor; Railroad administration. The professions of Law, Engineering and Finance are each to be represented by one member. Appointments to be by the President, with long tenure of office to relieve them from local political pressure.

Financial Responsibility of Government.

Government controls railroad revenue and operating expenditure to a great extent, but is not responsible for financial results of operation. It is hardly possible that railroad business be prosperous or have good credit under these conditions. The agency exercising authority over income and outgo should be responsible for the financial results. The government therefore should guarantee the interest on railroad investments.

Railroad Credit and Capital.

Credit is indispensable to the conduct of railroad business. The normal annual requirements of railroads for new capital is large. Traffic has increased more rapidly in the last decade than the facilities for handling it. Allowance for retarded development of railroad facilities must be included in the estimate of future needs of capital; an enormous amount is required for the expansion of existing facilities and extensions into new territories.

Competition for New Capital.

The annual world supply of new capital will be reduced in the future by the internal necessities of some countries heretofore contributing materially to it. The funding of the European war debt and the reconstruction of ruined industries, added to the

normal needs of non-belligerent countries will create an abnormal demand for new capital, increasing very materially the rate of interest demanded for its use.

Lack of Railroad Capital Will Preclude Trade Expansion.

Without government guarantee of interest it is questionable whether railroads can secure needed capital and it is certain that rates will be much higher than those heretofore prevailing. Lack of cheap money will preclude the obtaining of needed expansion of present facilities and the construction of new railroads for many years. This in turn will bar the expansion and development of trade. The vital importance of the end sought—national prosperity—justifies a radical policy.

Profit-Sharing.

It is impossible that all railroads earn the same rate of return on their investment. Unless weaker roads are driven into bankruptcy, stronger roads must earn more than a bare fair return on their investment. The surplus created by such excess earnings, if divided between the public and the railroads, would result in (a) payment of the public for the use of its credit; (b) partnership of the public and the railroads as to net profits from transportation; (c) just regulation of rates; (d) increased railroad operating efficiency; (e) facilitating the extension of railroads into undeveloped territories. The power of the Interstate Commerce Commission to prescribe the system of accounting, and to supervise it, precludes unfair treatment of the public through "tricky" accounting.

Effect of the Plan on Public.

Each district could concentrate its attention on one commission rather than on many regulating bodies; it would insure consideration of local needs peculiar to each district. The general public would secure the lowest possible rates compatible with fair treatment of the railroads; it would secure expansion of facilities and new railroads when needed. The present strife between the public and the railroads would be removed, so far as that is possible.

Effect of Plan on the Railroads.

It would curtail the nominal independence of railroad officials, but increase their actual independence. Government guarantee of interest is also a guarantee that railroad revenue will be adjusted to changes in cost of operation. This adjustment will establish a sound business basis and remove the present disabilities of insufficient revenue and impaired credit. It will secure financial control of railroads to the public of the district in which they operate. With the public interested in the profits of railroad operation, long-continued litigation in connection with the subject of fair return on investment and other matters at issue will be avoided.

Substitute Regulation for Prohibition.

Competition between railroads as to service is wasteful, expensive and not worth its cost. Regulation should be substituted for existing legal prohibitions fostering it. The economical movement of a large through traffic necessitates such a change in the laws.

Pooling of Freight and Passenger Traffic.

— The national power of regulation is strong enough to prevent abuses in the practice of pooling

traffic. Pooling of traffic, which implies pooling of equipment and other facilities as well, will (a) give the public the best possible service in any given situation; (b) reduce the cost of railroad operation and hence the general level of the rates charged and (c) reduce the need for new capital to the lowest possible minimum.

Fundamentals of Plan.

The plan herein proposed seeks to accomplish three things which the writer believes are indispensable to a satisfactory solution of our transportation problem:

(1) To unite the public and the owners of the railroads in a community of interest in the net financial results of railroad operation.

(2) To effect a wider distribution of ownership of railroads.

(3) To stabilize the value of railroad securities by removing speculative features as far as that is possible.

Conclusion.

Railroad transportation affects our most vital social and commercial interests. Whether he realizes it or not, it affects every citizen of the country. It is most important that we formulate a constructive railroad policy. We must abandon our present attitude toward it. Our system as it now exists represents the solutions of various communities striving to meet their own particular and local needs. Our policy must be based on national considerations—the good of the country as a whole, rather than the good of particular localities, states or districts.

We have delayed too long in working at our problem from a national standpoint. Now is none too soon to start to work out its various essential de-

tails. Existing domestic and foreign conditions warn us of the necessity of arriving at definite conclusions as speedily as possible.

The plan herein suggested is sketched in outline only. Many difficulties will be met in working out details and many obstacles must be overcome before it can be put into effect, but none of them are insurmountable. The plan finally adopted will be a composite one, representing the ideas of many minds considering the problem from various positions and at various angles. This treatise is offered as a contribution to the general discussion which will apply the various tests essential to an intelligent solution.

A D D E N D A.

Government Partnership in Great Britain.

After this manuscript was completed and in the hands of the printer there appeared in the daily press a most interesting interview with Mr. Henry Thornton, formerly General Superintendent of the Long Island Railroad and for some years past General Manager of the Great Eastern Railway in England. The duties and responsibilities of an English General Manager are practically the same as those of our railroad Presidents.

The experience of Great Britain with Government Partnership in Railroads, as related by Mr. Thornton, has extended over a period of two and one-half years. It confirms, in many essential particulars, the practicability of the author's proposed plan as presented in this chapter. The statement as it appeared in the Chicago Daily News in January, 1917, is given in full:

"The arrangement between the government and the railroad companies," said Mr. Thornton, "has proved a good bargain for everybody. Under §§

stockholders receive the same return, with some minor deductions, that they had in 1913, upon which year the bargain was based. The government, in turn, fares well, because the hauling done for it, if it had been paid for at the regular rates, would have amounted to a great deal more."

"Will the old conditions ever be restored?"

"Never," replied Mr. Thornton, with emphasis. "The position will be different after the war. Exactly what it will be nobody can tell. It will probably be something like semi-nationalization or government partnership. It will be better than the old relation, because we have had an opportunity to develop the subject under conditions which were peculiarly favorable for this purpose. We ought to work out something that has all the advantages and none of the disadvantages of government ownership."

"When asked to comment on the situation in America, Mr. Thornton said the Interstate Commerce Commission seemed to him to labor under the disadvantage that it was too far away from its subject.

"The problem is to bring shippers, employees, shareholders and managers and the government together, so that they will appreciate the different points of view instead of always standing each for its own. My study of the American problem has carried me almost to the conviction that instead of the Interstate Commerce Commission there should be a body composed of men representing the four interests to which I have referred.

"It might be well to carry the scheme even nearer to government control. Assuming some form of financial participation on the part of the government, there is at once a stabilizing of railway securities. They are taken out of the field of speculation, the

raising of capital becomes easy and its hire cheap. The government in turn has then a stake in the proposition. Moreover, each of the interests involved in the proposition watches the other and sees that no interest gets more than its share. It seems to me that you have got to devise some scheme of automatic justice in railway management, or you will have a breakdown somewhere that will be very serious in its effects on the whole country.

"A body composed of the best available men, appointed for life and adequately paid, would be in a position to get the best results. For example, a labor leader (and there are many good ones in America) might go into this body prejudiced, but his association with the others would broaden and mellow him. Precisely the same thing could be said of the representative of capital.

"It has worked that way in England. Never anywhere has there existed such severe competition as there was here among the railroads, and yet the ten general managers when brought together to operate the railroads of England have all come to see each others' point of view, and as a matter of practical experience every decision reached by them has been unanimous."

On account of his former experience in connection with American railroads and his present associations with English railroads, in positions of authority in both instances, Mr. Thornton is perhaps better qualified than anybody else to appraise this recent English experiment from the American viewpoint. His impressions, obtained from a close-up view and his opinion in regard to our affairs, based on broad experience and intimate knowledge of both American and English railroads, should be given serious consideration.

GOVERNMENT OWNERSHIP OF RAILROADS.

If we are unable to devise a workable plan for administering privately owned railroads under efficient government regulation, we shall be forced to consider the alternative plan of government ownership of railroads. This chapter is devoted to some features of this latter plan.

Regulation Required Under Government Ownership.

The principal argument advanced in favor of government ownership has been that we are unable to regulate the rates and practices of our privately owned railroads efficiently and must adopt government ownership to relieve ourselves of the difficulty. Such an argument has nothing whatever to support it, as government ownership does not relieve us in any particular of the necessity for regulating railroad rates and practices.

Rates must still be adjusted between different localities, between state and interstate traffic, between different commodities, different forms of transportation, as to charges for switching, storage, icing, demurrage, reconsignment and in many other particulars. It is just as essential that discriminations be avoided under government ownership as under private ownership. Railroad operation must be regulated in the same way and to the same extent under one plan as the other.

Government ownership will be discussed from the standpoint of economics, politics and social conditions. That is, we will investigate; (a) whether railroads may be more economically operated under government than private ownership; (b) what effect the change from private to government ownership

would have on the regulation of railroads; (c) what effect it would have on our politics; (d) how it would affect the several states; (e) how it would affect labor. All of these things are of vital importance to us and must have consideration in reaching an intelligent conclusion.

The only railroad in the United States which is owned and operated by government at the present time is a line 32 miles long which is operated by the State of Texas in connection with its penitentiary. Lacking any considerable present experience of our own, we must look to our past history and the experiences of foreign countries in investigating the various features of government ownership.

Government Ownership in the United States.

Our earlier history furnishes some illustrations of government ownership in this country which should be considered.

North Carolina.

Both as to mileage and length of time operated, this state's experience with government ownership has been the most extensive in the country. At one time it operated more than 500 miles of railroad and, as to 95 miles, continued its operation for nearly fifty years. There were three different lines included in the state's experience:

The North Carolina Railroad Co., incorporated in 1849, constructed 223 miles of railroad extending from Goldsboro to Charlotte. The state owned a large majority of the stock and operated the road until 1871 (about 20 years), when it was leased to a railroad which has since been incorporated in the Southern Railway System. The state still owns a majority of the stock of this road and derives a good yearly income from it.

The state constructed and operated for five years (1875-1880) the Western North Carolina, 185 miles long, extending from Salisbury to the Tennessee state line. The state was its sole owner for 5 years. It was sold to a railroad company and has since become a part of the Southern Railway system.

In 1856 the state constructed the Atlantic and North Carolina, 95 miles long, extending from Goldsboro to the Atlantic coast. It operated the road until 1904—about 50 years. The state owned, and still owns, two-thirds of the stock of the company. In 1904 it was leased to a private company and has since become a part of the Norfolk and Southern Railroad, which now operates it, the state deriving a good income from its stock holdings.

The entire bonded debt of the state is about six million dollars, practically all of it having been incurred on account of the state railroads. The present value of the stocks owned by the state is greater than this total debt.

It is to be noted that the state finally ceased railroad operation in 1904; that so far as **operation** was concerned the state was not successful, but as a result of **retaining ownership, with operation in the hands of private companies**, it receives substantial returns on these investments in railroads.

Missouri.

This state participated in owning, financing and operating four different railroads, viz., Hannibal & St. Joseph—St. Louis, Iron Mountain & Southern—Cairo & Fulton and the Pacific Railroad. The net loss to the state for this participation was nearly 25 million dollars.

All of these railroads now form a part of large railroad systems. The state therefore made no mistake in selecting railroads that could be profitably

operated, but it demonstrated that it was unprofitable to construct and operate railroads under state control in Missouri.

Massachusetts.

In 1855 this state started construction on the Hoosac Tunnel through the Berkshire Hills; it was not completed until 1876. The state was not successful in operating the property and it passed under the control of the Boston & Maine R. R.

Georgia.

This state constructed, and operated for some years, the Western & Atlantic R. R., 137 miles long. On account of deficits from state operation, it was leased to a private company in 1870. It now forms a part of the main line of the Nashville, Chattanooga & St. Louis R. R., which operates it under lease, the state retaining its ownership of the property.

Pennsylvania.

This state built and operated an 80 mile railroad, extending from Philadelphia to Columbia, which was finally sold to the Pennsylvania R. R. in 1857 and formed a part of its original main line. Under state control the operation of the road resulted in deficits and it became hopelessly involved in politics. This experiment in government ownership cost the state more than 20 million dollars.

The motive for government **ownership** of these railroads is found in the lack of private capital available for railroad construction. The credit of the state was required to obtain the capital. As to the **operation**, it had not been definitely determined at that time whether private or government administration of railroads was the better.

City of Cincinnati.

To enable its merchants and industries to compete with those of Louisville, Ky., for the trade of the Southeastern states, this city constructed, and operated, for some years, the Cincinnati Southern Ry., 338 miles long. The city abandoned the operation of the line long ago, although it still retains ownership. It is now operated as a part of the Southern Railway System.

The motive for this city ownership is found in commercial necessity. The city assumed ownership and operation because the construction of this railroad through a very rough, mountainous country involved large capital expenditure and its operation did not promise sufficient returns on the investment to make it profitable for some years. It retains its ownership to guarantee the rates and services necessary to maintain its commercial position in competing with other cities.

Panama Railroad.

To facilitate the construction and operation of the Panama Canal, the United States Government purchased and now owns and operates the Panama Railroad, 47 miles long. Its operating expenses are more than \$50,000 per mile annually, as compared with the average operating expense of railroads in the United States of \$7,700. A freight rate more than six times the average of the United States is charged to avoid showing a deficit from its operation.

There is no conclusion to be drawn from this experience, except perhaps that government book-keeping may at times be misleading. The railroad is required and must be operated by the government irrespective of cost of operation, that consid-

eration being subordinated to the much more important necessities of canal construction and maintenance.*

We may summarize the experience of the United States in government ownership in a paragraph: The experience of the State of North Carolina shows clearly that, under proper conditions, **government investment** in railroads may be profitable. The experience of this and all other states indicates that heretofore **government operation** of railroads has been unprofitable in all cases, from an economic standpoint, in the United States. The experience in Pennsylvania shows that government ownership and operation of railroads has involved them disastrously in politics.

Canada.

The conditions in Canada are very similar to those in the United States as to the character of people, laws, character of the railroads and topography of the country. The report of the Dominion Commission on Canadian Railroads for the year 1915 shows the government-owned Intercolonial Railway as operating 1,843 miles.

The Canadian Government has operated the Intercolonial for 47 years. For 25 years its expenses have exceeded its earnings by the aggregate operating deficit of \$11,500,000. For 22 years its earnings exceeded expenses by \$1,967,000, making a net deficit of \$9,533,000 for the entire period. The deficit for the year 1915 was \$89,046.

*The historical data relating to government ownership in the United States are taken in large measure from an article by Richard Hoadley Tingley, "The World's Experience in Government Ownership," which appeared in the Santa Fe Magazine.

During every one of the 43 years of its operation by the government, the operating expenses of the Prince Edward Island R. R. exceeded its earnings, the total deficit for the entire period being \$3,280,000. The net result of the operation of both roads by the government for the entire period is a deficit of \$12,813,000.

These government roads do not pay taxes. The privately owned Canadian Pacific and Grand Trunk Railroads, operating in the same territory, operate at a profit. Both of them pay taxes.

The deficits arising from government operation of these railroads have been caused by the adverse influence of politics. An article in Moody's Magazine by W. R. Givens, states that the deficits occur "because it (The Intercolonial) lives, moves and has its being as a political institution" * * * "the fiction is that it was never intended to pay, but to be run for the good of Canada."

Influential Canadian papers have at different times stated that "every abuse known to railroading took root and flourished," such as under-billing weight of shipments, secret rebating, maintaining an excessive number of stations and employees, unjust classification and rates, acquiring useless branch lines—all to serve partisan ends.

The government, under the control and supervision of four of its commissioners, has constructed the National Transcontinental Railway, extending from the eastern provinces to Winnipeg, Manitoba. Prior to construction it had entered into an agreement with the Grand Trunk Railway to operate this line, after completion, at an annual rental charge of 3% on its cost.

The original estimate of cost was \$34,083 per mile; its actual cost of construction has been \$99,000 per mile. The Grand Trunk refused to operate the

line under the contract on account of the large rental resulting from this excessive cost, as the cost of competing lines, privately owned, had been from one-third to one-half that of the government line.

A government commission appointed to investigate the construction of this line charged fraud in the payment of contractors; the payment of bogus damage claims as a reward for partisan political activity; the construction of unnecessary and improper tracks, buildings and other structures; the premature construction of certain sections of the line. It condemned the lack of foresight as to business conditions at the time of completion of the construction.

The commission reported that "in our opinion, the **interest** payable to the Government and the **operating expenses** taken together will be about the same as the **dividends, interest charges and operating expenses** of the competing roads (the privately owned railroads) which are only capitalized at from one-third to one-half as much per mile as is the National Transcontinental."

It will be remembered that the construction of the Pacific coast extension of the Canadian Pacific was first undertaken by the Canadian Government. The work done by the government was later given to a private company as an inducement to complete the line which the government found itself unable to construct economically.

The construction of railroads in Canada has been encouraged through grants of money and land by the Dominion and Provincial Governments. The location of such lines has often been based on political considerations, rather than on economic principles, through pressure from members of the Dominion Parliament and the provincial legislatures granting the subsidies—duplicating our own experience dur-

ing the state aid period of railroad construction in this country.

The motive for government ownership of the Intercolonial Railway was political. The road was designed to unite the eastern provinces of Canada. The construction of the transcontinental Canadian Pacific was undertaken by the government to unite the far western provinces of the Dominion with the eastern provinces. They might easily have been alienated through lack of interprovincial business intercourse.

To summarize the conditions in Canada, we may fairly say: **Government operation** of railroads in Canada has not been successful from an economic standpoint. The lines so operated are located in territories which have been provided with transportation facilities for more than 40 years and they are therefore developed agriculturally and industrially. The results of government operation show for the entire period a deficit of more than 12 million dollars and the latest report (1915) shows that the deficit still persists.

The operating results of all Canadian roads show a net profit in 1915 of 2.16% on capital cost, 3.99% in 1913, although a large part of the mileage is situated in undeveloped territory and the privately owned lines pay taxes while the government lines do not.

It has not been possible to keep government operation of railroads free from politics. The record shows that they are a football between political parties and their business is administered in partisan interest.

Government railroad construction in Canada has not been efficiently performed and in some instances has been dishonest. It is to be expected that final cost will exceed first estimates but when it is

three times as large, as was the cost of the Transcontinental, and from two to three times the final cost of practically paralleling privately owned lines, the charge of inefficiency and dishonesty is fully sustained. In the case of the Canadian Pacific, many years earlier, the government was unable to complete the line and turned it over to private interests, suffering considerable loss incurred in construction prior to that time. In constructing new railroads, subsidized by government, political considerations have often influenced the location of railroads.

Germany.

The railroads of Germany are perhaps more economically operated than any other government owned railroads in the world. A comparison of them with the privately owned railroads of the United States is the severest test for both plans of administration which may be applied.

The German Federal Government does not own the German railroads, except those of Alsace-Lorraine. Bismarck's aim of nationalization on federal lines was never realized. The railroads are owned by the several states comprising the German Empire.

The "Prussian-Hessian Railroad Company" is the largest of the systems, operating 38,000 kilometers (about 61%) of the total of 62,000 kilometers for the whole empire. The Federal Constitution provides that these state-owned railroads must be operated in the general interest of the empire. This is the only federal bond between these different state systems in times of peace.

The conditions surrounding railroads affect their operation to a marked extent. The difficulty in comparing the railroads of one country with those of another lies in the fact that conditions are never

the same in both countries. The relative importance of passenger and freight traffic, the density of traffic, average length of haul, class of service, wages of labor and other conditions affect cost of operation materially. For this reason statistical comparisons are not always a safe foundation upon which to base conclusions unless proper allowances are made for the varying conditions mentioned.

The railroads in the Eastern group of the United States are more nearly comparable with those of Germany than are those of the whole United States. The following discussion is based on the statistics of this group, except as noted, the data used being taken from the official report of the Interstate Commerce Commission for 1912. The statistics for the German railroads are taken from German official reports for the same year, these being the latest data available.

Statistics U. S. and German Railroads

Item No.	Whole U. S.	Eastern group U. S.	Germany.
1 Capital per mile of line.....	\$63,535	\$88,550	\$116,457
2 Return on capital, per cent.....	5.77	5.66	6.29
3 Taxes in percentage of gross rev.	4.22	4.12	.95
4 Taxes per mile of line.....	\$481	\$801	\$209
PASSENGER TRAFFIC—			
5 Population per mile of line.....	382	662	1,752
6 Revenue per passenger mile.....		1.782c	0.91c
7 Passengers carried per mile of road		9,635	46,177
FREIGHT TRAFFIC—			
8 Ton-miles per mile of line.....		2,131,165	1,109,758
9 Average haul miles.....	143	122	62
10 Freight revenue per mile.....		\$13,583	\$13,902
11 Average revenue per ton.....	\$1.066	78.9c	76.9c
12 Average rate per ton-mile.....	0.744c	0.647c	1.245c
13 Average freight train tonnage.....		450	218
EMPLOYEES— (1915)			
14 Average wage of employees, year	\$825	.....	\$409
15 Traffic units handled per employee**	201	.....	81

**Total passenger miles and freight ton-miles divided by total number of employees.

It will be noted from Item 12 of the table that the average cost of having its freight hauled was, to the American public in the Eastern group, practically one-half the rate paid by the German public for the same unit, viz., one ton hauled one mile. Such comparison is not entirely fair, however, because the charge for **handling** the freight at point of receipt and again at point of delivery is the same without regard to the length of haul and the average American haul is nearly twice that of the German (Item 9). There is one comparison which takes this difference of haul into account; it shows the American cost to be much less than the German.

The American railroad hauls a ton of freight 122 miles (Item 9) for 78.9 cents (Item 11); the German railroad hauls a ton of freight 62 miles for 76.9 cents. That is, the American road hauls its ton nearly twice as far as the German road and only receives 2 cents more per ton for doing it. *Again, the German railroad hauls for each mile of its line 1 million ton-miles of freight (Item 8) and charges \$13,902 for the service (Item 10); the American railroad for each mile of its line hauls 2 million ton-miles of freight and charges less—\$13,585—for the service. And this, too, in spite of the fact that the American railroad pays its employees a wage more than twice as large as that paid by the German railroad (Item 14).

The explanation of this seemingly impossible difference is found, in part, in Item 13 of the table, which shows that the American freight train carries more than twice as many tons as does the German freight train. Item 15 shows that the American employee handles $2\frac{1}{2}$ times as many units of traffic as does the German employee.

*The average haul is involved in this illustration.

The maximum first class passenger fare on Eastern American railroads is 2.5 cents, the rate being very generally 2 cents per mile; the average first class fare in Germany is 2.93 cents per mile. For the first class passenger service, the American passenger fares therefore are lower than those of Germany. This does not afford a satisfactory basis for comparing the relative cheapness of passenger fares however, because in Germany only one-tenth of one per cent of the total passenger traffic is first class, while in America practically all of the traffic is first class.

German passenger traffic is divided into five classes and the following table shows the classification of the traffic by percentages for the year 1912:

First Class	0.1%
Second Class	7.5%
Third Class	42.0%
Fourth Class	49.2%
Military	1.2%

100.0%

Observe that the second, third and fourth class traffic, with their lower fares and inferior service, constitute nearly 99% of total German passenger traffic, while practically all of the American traffic is first class. The average passenger fare per mile for the American and German railroads shown in Item 6 of the table are not comparable, owing to the very large percentage of second, third and fourth class traffic in Germany.

The density of population, which affects the cost of passenger service very materially, renders comparison still more difficult. The German population per mile of railroad is 2.68 times that of the Eastern American roads. The passenger traffic density of German roads is 4.8 times that of American

roads. The unit cost of passenger traffic decreases as traffic density increases.

It must be remembered, too, in connection with passenger fares, that American wages are more than twice those of Germany. Allowing for the difference in class of service, density of traffic, and rate of wages, the statement that American passenger fares are materially lower than those of Germany is certainly fair. Without making any allowances whatever, first class passenger fares are lower in America than in Germany.

It will be noted from Item 2 of the table that the rate of return on capital for the German roads was 6.29%, while for our eastern roads the return was only 5.66% and for the whole United States 5.77%. Had the same rate of taxation per mile paid by the German roads been applied to all roads of the United States, the net earnings of these latter roads would have been increased 93 million dollars and the net return on capital would have been 6.39%, or slightly greater than the return on the capital of the German roads. Or if the German rate per ton-mile on freight had been applied to all of the roads of the United States, their **net revenue** would have been increased \$1,320,403,700 and the return on capital would have been practically 14.5%, even though wages remained twice as high in the United States as in Germany.

Such comparisons might be carried to any extent desired, but sufficient data have been given to show conclusively that from an economic standpoint the privately owned American roads are more efficiently managed and that the rates charged for their services are much lower than are those of the government owned roads of Germany.

Turning to other than the economic features of *the government owned railroads of Germany*, let us

investigate their effect on politics and the manner of their regulation. Germans are better able to judge of such matters than are those lacking intimate knowledge of their conditions. In 1914 Prof. Walther Lotz, a German authority on railroad administration, published a book on "German Communications since 1800," in which he discusses these features of government owned railroads. In speaking of the monopoly problem, he states:

"Nationalization is not by any means a solution of the monopoly trouble. Monopoly remains monopoly even if it is managed by officials. True, the state is claimed by nationalization enthusiasts to be a higher and unerring entity. But in reality the state is only the national organ of erring men, who are influenced by their virtues, their faults, their interests and their passions. And these influences are all brought to bear on railroad management quite as much when the state does the managing as when private persons do it. Indeed in countries governed on party principles, privately owned roads are often more bearable than state owned roads, as **state owned railroads are exploited as much as possible for their own advantage by changing parties.** This is a reason against nationalizing the railroads in the United States."

In the Cologne Chamber of Commerce, in 1913, it was stated that, on the basis of traffic carried, the Prussian roads had "2½ times as many officials as the American roads and 5 times as many clerical and other officials who do no physical work." No official statistics are available to prove this charge but the official statistics for the entire German system show that there are 2,077 employees per 100 miles of line as compared with 624 per 100 miles of the entire system of the United States. As heretofore stated these statistics also show that only 81

units of traffic (passenger miles and freight ton-miles) are handled by each German employee while 201 units are handled by each American employee.

Herr Gohre, a member of the Reichstag, in a speech concerning these Prussian roads, which are considered the most efficient in Germany, declared that: "The bureaucratic management and the excessive staff would not be tolerated by a private corporation."

The most serious complaint, as to the regulation of the rates, is that they are fixed by bureaucrats who do not understand business and that the grain and iron exporters are favored in the matter of rates, at the expense of all other interests. Breitenbach, Minister of Public Works, in 1914, stated that "certain large interests in their zeal against competition have prevented rate reductions." His predecessor described the Prussian railroads as "a morsel between contending dogs for which there is no parallel even in America, where the trusts exploit the railroads in their own interests."

During the period of consideration of government ownership, in the early 80's, the legislatures of the various German States were promised that the railroads would be operated in the interests of the shippers and not for the purpose of earning a profit for the state. The rates were to be only high enough to cover the expenses and the interest on the debt incurred in purchasing them. The state pays $3\frac{1}{2}\%$ interest on this debt, except a small portion on which it pays 4%. There is bitter complaint that the returns on capital, after paying all expenses, are much greater than the interest requirements and that the amount earned in excess of such requirements constitutes a **tax on business**.

The state has argued that it needs this profit to meet general public requirements. Business inter-

ests contend that such needs should be met by direct **taxation of property** and not by a **tax on business**. The government's own statistics show clearly a large earning over expenses and interest on the debt, so that there is no doubt that the original promise to operate the railroads in the interest of the shippers, and without profit to the state, has not been fulfilled.

There is a feature of taxation of German railroads which should be noted. The length in miles of State railroads in 1912 was 35,481; of private railroads 2,184 miles. The State railroads paid only 0.94% of their revenue in taxes; the private railroads paid 1.40% of their revenues in taxes, or practically 50% more than the government railroads.

In presenting the facts concerning the effect which government ownership has had on German politics and the regulation of railroads, the views of competent German authorities and officials of the German Government have been used. The statements and opinions of partisans of private ownership and government ownership have been purposely avoided.

Considered from the standpoint of the effect which government ownership has had on railroad regulation and German politics, the experience of Germany certainly offers no encouragement to adopt government ownership as a relief from the evils of private ownership. It only serves to emphasize the statement made at the beginning of this chapter, that the problems relating to regulation of railroads are exactly the same under government ownership as under private administration.

Motive for Government Ownership.

This does not mean that government ownership has been a failure in Germany or that its adoption


was ill-advised, because there were reasons not found in economics, in domestic business interests or internal politics that were compelling. Its railroads have been taken over from private corporations, extended and improved primarily to serve its military organization; the needs and convenience of its commercial and industrial interests have been subordinated to military necessity.

The importance of the railroads to German military plans is disclosed in a statement of the German General Staff issued since the beginning of the war. In speaking of the mobilization of men and supplies this statement occurs: "The railway authorities had, therefore, in their primary preparations to take into consideration our geographical position and see where the most vulnerable positions lay. In time of peace trial trains were run to these various positions, so that if the war broke out there should be no hitch in the transport of troops. Preparations were made, therefore, for all eventualities."

Its geographical position makes of Germany a military state. Its previous history justified its fear of international complications. The present war abundantly proves the wisdom of its military railroad policy. It is here we find the motive for government ownership in Germany—not in economics, nor in domestic business conditions and politics.

France.

In France only 5,509 miles—18% of the total mileage of the country—is owned and operated by the state. The greater part of these lines were taken over from a private company in 1908. Although gross earnings have increased each year up to and including 1913, there has been a constantly



increasing deficit for each year since the lines came under government ownership, the total for the six years being about 70 million dollars.

Paul Leroy-Beaulieu, the French economist, stated in 1912: "Everyone knows of the deplorable result of the management of the Company of the West by the state. * * * At the end of three years, government ownership appears to be a public calamity and a financial disaster. Moreover, substantial accidents occur, one after the other, not only on the Western Railway, but on the old system that the government has been administering nearly 35 years."

In speaking of the operation of the privately owned French railroads, which aggregate 25,159 miles, W. M. Acworth, an English authority on railroad administration, had this to say in a speech delivered in 1914: "It is in Prussia, if anywhere, that government railroads are efficient. And yet I believe that any impartial expert comparing Prussia with France, and taking into consideration the conditions, geographical, commercial and economic, the service rendered and the rates charged, would come to the conclusion that the French companies, hampered though they are at every turn by political interference, are managed more efficiently and economically than the Prussian state system."

There is no encouragement in this French experience for government ownership from an economic standpoint. What, then, is the reason for French government ownership in the face of the fact that its incompetence had caused a national scandal prior to the war?

The lines operated by the government connect Paris with the seaports and serve the territory lying along the northern French frontier where they meet the German railroad system which, as heretofore

stated, has been organized on a military basis. France waited 20 years but was finally forced into government ownership by the action of Germany. That is, the motive for government ownership in France is found in military necessity. Further, without regard to financial results from operation, she must continue government ownership so long as the German railroad system remains as it now is. The deficits from the operation of the government railroads of France are to be regarded as a part of the total cost of her military preparedness.

Austria-Hungary.

For some years there has been a large annual deficit from the government operation of 27,544 miles of railroad in these countries.* In 1910, the President of the Austrian Chamber of Deputies, who is an advocate of government ownership, said: "We are still in favor of the principle (government ownership), but it does not seem to us that our government has performed a remarkable feat when it has succeeded in creating a deficit on the Northern Railroad. The government has enlisted an army of new employees. They have gone much too far in the reduction of hours of labor. Instead of a commercial management they appointed lawyers to posts that require business men and experts. They have established an entirely impracticable bureaucracy."

It will be noted that the charges of inefficiency of operation and regulation of rates are along the same lines in Austria as in Germany.

*It has been stated that the annual deficit is 25 million dollars; statistics are not available to substantiate this. The government owns about 80% of this mileage.

Statistics of railroad operation in Hungary afford a striking illustration of the comparative cheapness of our own rates in some particulars. In 1912, the Hungarian average rate on fast freight was 6.43 cents per ton-mile—a higher rate than our roads receive for hauling United States mail.

The average freight rate was about double our rate. The average railroad wage was \$300 per year, or about 35% of our average. Evidently the deficits of railroad operation in Austria-Hungary are not due to low rates or excessive wages paid employees.

The frontiers of these countries are common with those of Italy, Germany and Russia, in which fact is found the motive for government ownership—military necessity.

Belgium.

Prior to the war the government owned and operated the greater part of the railroad mileage of the country, private companies operating the balance. In 1912, the government operating ratio (operating expense to total revenue) was 69.63%. The net receipts were 3.8% on cost of construction, hardly enough to pay the interest charges on the capital.

It has been stated that the operating ratio of the private railroads is much less than the government ratio of 69.63%—although late official statistics for private operation are not available. The official statement for 1912 shows that on the state roads the number of employees per mile of line was 26.67, on the private roads 22.41.

It is the general belief that the fear of domination by foreign capital has been the motive for government ownership.

A statement of the German General Staff in regard to Belgian railroads indicates in a general way

their standards of maintenance at the beginning of the present war: "Moreover, the railway roadbeds in Belgium in most cases were in a sadly neglected state and the rails were bad. Very often the sleepers (railroad cross ties) broke under the weight of our engines."

Translated into American railroad terms, there was a large item of deferred maintenance in Belgian railroads which applied to rail and tie renewals. There is little doubt that the insufficiency of maintenance specifically mentioned extended to other essential roadbed and track items.

Switzerland.

In 1914, the state owned and operated 1,732 (54%) out of a total of 3,189 miles of railroad. Most of the lines were taken over in 1902. The results of operation under government ownership have been satisfactory in normal times. Rates have been reduced, wages increased and a very small profit is shown from operation.

During the discussion of the propriety of taking over the railroads, the country was assured that government ownership would effect a reduction in the number of employees and in operating expenses as well. As a matter of fact the number of employees was increased 20% and instead of realizing the estimated saving in operating expense, the actual cost of operation was increased.

The motive for government ownership has been stated to be the fear of domination by foreign capital.

The dissimilarity in character of the railroads of foreign countries and our own is strikingly illustrated by a statement showing the classification of the railroads of Switzerland.

A statement made by a Berne correspondent of the Railway Gazette, London, shows that early in 1915 the government owned railroads aggregated 1,696 miles of broad gauge and 36 miles of narrow gauge (1-meter gauge) roads. The privately owned railroads are classified as follows:

37 Broad gauge lines aggregating.....	553 Miles
49 Narrow gauge lines aggregating.....	786 Miles
15 Cogwheel lines aggregating.....	68 Miles
47 Cable railways—the longest being	only 2.6 miles.

Tramways aggregating295 miles

Note how short these various lines are compared with even our smallest roads; how widely the character of the roads differs from ours. Such dissimilarities must be borne in mind in comparing our railroads with those of other countries.

Italy.

More than 30 years ago an Italian Commission announced that under a state system, "Politics would corrupt the railways and the railways would corrupt politics." Subsequent Italian experience has amply fulfilled this prophecy of the commission.

The state owns and operates practically 85% of the total mileage of the country. In 1912 it operated 8,387 miles of railroad. The net return on cost of construction was 1.4%, which was insufficient to pay the interest on the capital.

In consequence of government subsidies granted to various private companies and the provisions in various charters relating to rates and regulation, the railroad situation became hopelessly complicated and the government was forced into taking over and operating the railroads.

**Quality of Service and Cost—United States v.
Europe.**

In comparing the operation of all foreign railroads with that of our own, the difference in the **quality** of service rendered must always be borne in mind. The opinion of those who are competent to judge—through travel over and knowledge of both systems—is unanimous as to the superiority of our railroad service.

Mr. E. E. Clark, one of the older members of the Interstate Commerce Commission, as to term of service, had practical experience in railroad operation prior to his appointment as a Commissioner. In an address before the National Industrial League on September 9th, 1915, he expressed this superiority of the quality of our railroad service over that of European railroads as follows:

"I have traveled some upon the railroads of Europe. They have some roads which, for those countries and for the services demanded of them, are excellent, well equipped transportation agencies, which perform an acceptable service. **They would not, however, be able to meet the demands in our country.** Taking into consideration circumstances and conditions I think that we have the best railroad service in the world."

Speaking of the relative cost of transportation of the government owned railroads of Europe and those of the United States, he said:

"In many of those countries the railroads are largely or wholly owned by the governments. But on the whole, such ownership and operation has not proven entirely satisfactory, and it certainly has not afforded the people cheaper transportation than could have been furnished under private ownership, properly regulated."

Due to his initial experience in practical railroad operation and his subsequent experience as an Interstate Commerce Commissioner, Mr. Clark is peculiarly well equipped to make a fair appraisal of both the quality of the service and its cost. His opinion is entitled to serious consideration in comparing the service and cost of these two general systems.

Russia.

The railroad policy of the Russian Government has been a vacillating one. Prior to the Crimean War (1853-1856) all lines were built and operated by the state; from 1857 to 1881 railroads were built and operated almost wholly by private companies, the government guaranteeing the interest on their securities. From 1881 to 1891 all lines were built by the state and 4,275 miles of line were acquired from private companies. Since 1891 the state has confined its efforts to building the Asiatic railroads, reverting to the policy of encouraging construction by private companies.

On January 1, 1913, the statement of mileage was:

State railways in Europe.....	22,250	53.8%
State railways in Asia.....	6,775	16.3%
		<hr/>
Total State railways.....	29,025	70.1%
Private railway companies.....	12,409	29.9%
		<hr/>
Total of all railways.....	41,434	100 %

The cost of construction of the private roads has been uniformly less than that of state roads. The proportion of double track was, however, on the state roads 28% of the whole, on the private 13%. The statistics for 1910, the last available as to total capi-

talization, show the average cost per mile of all roads to be \$84,299.

The report of the Minister of Finance to the Douma in 1913 shows the results of operation for the year 1911. After making allowances for interest charges on various obligations of the government (varying from 4.09% to 4.5%), there remained a profit of practically 43 million dollars.**

Count Witte, former prime minister, stated that after many years of deficit, the system had returned an income into the treasury between 1895 and 1900, but from that time until 1910 a period of deficit had followed, owing to the construction of strategic lines. Speaking of the construction of these lines, he said: "In countries where political or military purposes control the location of railways, and Russia stands in the front rank of such countries, it is quite the custom to build strategic lines, knowing full well that such lines will not be on a paying basis for a number of years. Between 1889 and 1904, 17,435 miles of railway were authorized and construction thereon begun. Out of this I put 4,030 miles as being incontestably strategic, or 23.1%, and 14.5% as being purely political, such as the Astrakan Railway. It is quite evident that if these roads had not been built, and if they had not been operated, the general deficits of our roads would have been considerably diminished."

The motive for government ownership in Russia is found in its political and military necessities. The Trans-Siberian line was built to tie Siberia to European Russia and foster commercial intercourse

**The foregoing data are taken from an article by M. Edward Thery, Editor of the European Economist, an abstract of which appeared in the Railway Age Gazette of July 31, 1914.

between them. On account of its great area, the railroads are essential to the mobilization of its army within a reasonable time.

It is to be noted that for some years the policy of Russia has been that of encouraging the construction and operation of new lines by private companies, the state building only those strategic lines which it considers necessary.

The Russian charges for freight and passenger service are higher and the wages much lower than prevail in the United States. The average railroad wage in 1910 was \$211.35 per year. Its deficits, except for the few years noted, afford no encouragement for government ownership and operation from an economic standpoint.

Australia and New Zealand.

The government owned and operated mileages in these states are shown in the following table. The figures given are for the year 1914-1915, except for New Zealand, which are for 1913-1914.

States.	Miles.	Gauge of Tracks.
New South Wales.....	4,057	Standard gauge, 4' 8½".
Victoria.....	3,848	3,726 miles of 5' 3", 122 miles of 2' 6".
Queensland.....	4,730	Narrow gauge, 3' 6"
New Zealand.....	2,861	Narrow gauge, 3' 6".
South Australia.....	2,026	1,187 miles narrow gauge, 839 miles of 5' 3".
West Australia.....	3,096	Narrow gauge, 3' 6".
Total.....	20,618	11,996 miles of narrow gauge, 8,622 miles of standard and broad gauge

The government owns and operates practically 95% of the total mileage of these states.

Comparing their capitalization with those of the United States as a whole, it will be noted that the average capitalization per mile, for the standard and broad gauge roads of New South Wales and

Victoria, is considerably higher than the average of the United States; the average capitalization per mile for the **narrow gauge roads**—on account of lower standards of construction— is less than the capitalization of the United States railroads.

	Capital per mile.	Gauge.
United States.....	\$66,661	Standard.
New South Wales.....	77,253	Standard.
Victoria	65,774	97% standard, 3% narrow gauge.
New Zealand.....	55,075	Narrow gauge.
South Australia.....	33,337	54% narrow, 46% broad gauge.
West Australia.....	26,712	Narrow gauge.
Queensland	35,697	Narrow gauge.

The average passenger rate of the Australian railroads is lower than that of the United States and it is only fair to state that the service of the former is very much inferior. The freight rates of the former are from $2\frac{1}{2}$ to 3 times those of the United States. The compensation of employees is higher in all cases in the United States and in one instance it is twice that of the Australian state road. The average number of employees per mile of line on the standard and broad gauge lines of Victoria is greater than in the United States; on the narrow gauge lines, whose traffic is comparatively very light, the number is of course smaller.

The following are the official statistics relating to these features of operation:

STANDARD AND BROAD GAUGE

	United States.	New South Wales.	Victoria.
Population per mile of line.....	331	391	347
Receipts per passenger miles, cents....	2.02	1.15	**.....
Receipts per ton-mile, cents.....	0.738	1.90	**.....
Average haul-miles.....	156	79	**.....
Average wages of employees, year.....	\$325	\$741	\$660
Number employees per mile line.....	6.24	6.04	7.03
Return on cost of construction for year			
1915, per cent.....	4.66	3.60	2.0
Same for year 1914, per cent.....	4.86	3.87	**.....

**Not given or obtainable from the statistics.

NARROW GAUGE

	Queens land.	New Zealand.	South Aus- tralia.	West Aus- tralia.
Population per mile of line.....	188	354	181	138
Receipts per passenger mile, cents... **...	**...	**...	1.20	**...
Receipts per ton-mile, cents..... **...	**...	**...	2.12	**...
Average haul-miles..... **...	**...	**...	114	**...
Average wages of employees, year.... \$649	\$674	\$414	\$790	
Number employees per mile line.....	2.40	4.96	4.94	2.63
Return on cost of construction for year 1915, per cent.....	4.03	**...	1.81	3.3
Same for year 1914, per cent..... **...	**...	3.61	5.33	4.32

The net return on investment for the private roads of the United States is greater than for any of the government owned railroads of the Australian states except that of South Australia in 1914. The two years are shown as the Australian operations of 1914 were not affected by the war, while those of 1915 were seriously affected in several instances.

It must be remembered in comparing the two systems that the Australian roads pay no taxes, while those of the United States paid an average of \$562 per mile in 1915. In 1911, the most prosperous year of the Australian railroads, the net return to the state, after allowing for capital charges on investment, were \$446 per mile, which it will be noted is \$116 per mile less than the American roads pay in taxes. The much smaller wages paid Australian labor are of course to be considered as well.

In most discussions of government ownership of railroads, the results of operation of the railways of Australia and New Zealand are cited by partisans of that policy as an argument for government ownership, on economic grounds. This presentation has been made in greater detail as to their railroads than those of the countries immediately preceding on that account.

Surely there is nothing in the government operation of Australian railroads, from an economic standpoint, to encourage government operation in the United States. As to capitalization, rates, wages paid employees, efficiency of labor and return on capital, the showing of the privately owned American roads are incomparably superior to those of Australia.

The English authority, heretofore quoted (Acworth), in comparing the systems of the two countries, stated: "Comparing the efficiency of the Victorian and the New South Wales railways (the best of the Australian railways) with that, I will not say the Pennsylvania, but of the Southern Pacific, or even of the bankrupt St. Louis & San Francisco, would be as absurd as comparing a blunderbuss with a Lee-Metford."

As to the political and regulatory features, the early history of the Australian railroads was very similar to that of the government owned railroads of Canada, in that they were operated on a political basis and were used to advance partisan interest.

The period following the general strike on the Victorian railways in 1903 has shown a great improvement, the railways being administered since then by a board of commissioners. This is intended to be a non-partisan board and its accomplishments on the whole may be said to be satisfactory. However, the same charges are made as to the policy of this board in locating new lines and in determining where improvements are to be applied to existing lines as those heretofore mentioned in connection with the Canadian roads, viz., that political considerations rather than economic principles control in such matters. There is a constant complaint from shippers as to the character and shortage of equipment, even in times of normal business.

There is nothing in the Australian experience to indicate that government ownership of railroads eliminate them from politics or reduces the necessity for government regulation of railroad practices. Neither does it eliminate strikes of railroad employees.

The motive for government ownership in Australia and New Zealand is found in financial necessity. Private capital for the construction of railroads was not available, as fair returns on their cost could not be earned for some years following their completion. The credit of the state was absolutely essential to carry on railroad operation through the period of deficits. The public could afford to assume these deficits, as they were less than the increased profits resulting from new trade which the railroads developed.

The experience of Canada and some of our states shows clearly, however, that while government **ownership** or government **guarantee of interest** was absolutely essential, government **operation** was not. Canada secured the construction of the Grand Trunk Pacific, extending from Winnipeg, Man., to the Pacific coast, by **guaranteeing the interest** on the cost of construction for a period of ten years following the completion of the railroad. The railroad is **operated** by a private corporation. The States of North Carolina and Georgia **own** certain railroads which they constructed for the purpose of developing trade. They are **operated** by private corporations.

Japan.

The Japanese railroads were acquired by the state in 1908, at which time they were capitalized at \$42,800 per mile. In 1914 the government owned and operated 5,348 miles of narrow gauge (3' 6")

railways, capitalized at \$90,977 per mile—as compared with our capitalization of \$61,661 per mile.

Japanese passenger traffic in 1914 was classified as follows:

First class	0.3%
Second class	4.4%
Third class	95.3%
	<hr/>
	100%

Its average passenger fare is therefore very low, being 0.7 cents per mile—lower even than that of Germany and much lower than the 2.02 average of the United States. As heretofore stated, in the case of Germany, the average passenger service is so vastly inferior to that of American roads, over which practically all passenger traffic is first class, that the average passenger rates afford no basis for comparison of relative cheapness of rates.

The Japanese freight rate is 0.87 cents per ton-mile, that of the United States 0.738 or about 85% of the former. The return on the capital in Japan is 6.06%. The average wages of employees is \$112.92 per year, or about 1-7 that of the American employee. Wages constituted 46.39% of the total Japanese operating expense; they constituted 61% of ours in 1915.

Considering class of service and wages, our private railroads are, therefore, much more efficiently conducted than are the government owned railroads of Japan. The motive for government ownership was the fear of domination of domestic commerce by foreign capital.

Comparison of Economic Features—United States Railroads vs. Foreign Railroads.

Comparing the railroads of the United States with those of foreign countries, on an economic basis, we find that the following conditions exist:

The **capitalization** per mile of railroads in the United States is less than that of any foreign country except where the comparison is with narrow gauge railroads with lower standards of construction.

The **average passenger fare** is higher on railroads of the United States than on foreign railroads for the reason that (a) considerably more than 90% of American passenger traffic is first class and more than 90% of foreign passenger traffic is second, third, fourth and lower classes, and the further reason that (b) American labor is paid higher wages than that of any foreign country. When the comparison is made on the basis of the **first class rates**, the American rate is lower than that of any foreign country except perhaps that of Canada where it is practically the same.

The **average freight rate** on railroads of the United States is very much lower, in every instance, than on foreign railroads—without making any allowances for higher wages and better service of the roads in the former.

The **wages** paid railroad employees are higher in the United States than in any foreign country—7½ times those of Japan and twice those of Germany.

More units of traffic—passenger miles and freight ton-miles—are moved per employee in the United States than in any foreign country.

Effect of Government Ownership on Politics and Regulation.

As to the political and regulatory features of foreign government owned railroads, we find:

Government ownership of railroads has certainly been used to advance partisan political interests in Germany, Austria-Hungary, Canada, Australia, New Zealand and probably in other countries. In the last three this has applied not only to the **operation of the roads** but in the matter of **locating new railroads, constructing new lines** and in **providing improvements of existing lines**.

In the matter of **regulation**, government ownership in Canada has heretofore been charged with discriminations between shippers on a **partisan basis** and with the establishment of too many stations for economical operation. In Germany the charge is discrimination in favor of the agrarian and steel manufacturing interests to the prejudice of all other interests. In Austria-Hungary the regulation has been in the hands of an "entirely impracticable bureaucracy." In Australia and New Zealand it has allowed equipment inferior in character and insufficient in amount at all times for normal business requirements.

In Canada, Germany, Austria-Hungary, Belgium and Switzerland, government ownership has either **increased the number of employees** required to perform a given service under previous private ownership or the official statistics show, in all cases, a greater number of employees on government than on private roads for performing equal amounts of service. In some cases the government roads are charged with being "overofficialized."

Motives for Government Ownership.

The motive for government ownership is found to be military necessity in the case of Germany, France and Austria-Hungary; political necessity in *Canada*; political, military and financial necessities

in Russia; financial necessity in Australia and New Zealand; fear of domination of business interests by foreign capital in Belgium, Switzerland and Japan; complications in the matters of subsidies and rate regulation in Italy.

We have no political roads to build in the United States, these having been constructed heretofore through government aid. If any railroads are required as part of a plan for military preparedness, they may be constructed as short extensions of existing privately owned systems. The total mileage of such roads is an insignificant percentage of our total mileage and hence not important enough to control the policy of the country's entire railroad system.

We have no fear of domination of our business interests through investment of foreign capital in our railroads. We have always needed and still need more than all of the capital available, both domestic and foreign, to expand railroad facilities and extend existing systems. Government ownership is not absolutely essential on account of our financial necessities as to new capital. As shown in the previous chapter, government guarantee of interest in connection with partnership in profits of operation will be as effective and more desirable in many ways than government ownership.

There is no necessity for government purchase of private railroads to cure evils arising from provisions in their charters regarding subsidies or rate regulation.

To summarize this feature of the subject, the motives responsible for the adoption of government ownership and operation of railroads by foreign countries are lacking in the United States. What is compelling or well-advised under their conditions lacks force and is ill-advised when applied to our conditions. An argument for the adoption of gov-

ernment ownership in the United States based on the previous action of foreign countries in meeting needs unlike our own is not well founded.

Effect of Government Ownership on Our Political Institutions.

We have still to discuss, however, the effect of government ownership and operation of railroads on our own conditions and on our own political institutions. Such discussion must include the effect which the adoption of such a plan would have on other public utilities.

To be consistent, if the government owns the railroads it should own the express, telegraph and telephone lines as well as the competing electric railways and the water transportation companies. The immediate effect of such ownership would be to multiply the number of government employes by about six. The following table showing the number of employees engaged in these various lines of work is taken from the published report of a speech by Senator Jonathan Bourne, Jr., before the National Civic Federation, November 4, 1914:

Government Civil Employees (1914).....	469,000
Telephone and Telegraph Companies (1912)	220,656
Railway Employees (1913).....	1,815,239
Electric and Street Railways (1912).....	282,461
Water Transportation Companies (1906) .	188,348
Express Companies (1907).....	79,284
Total	3,054,988

What would be the effect of adding practically 2,600,000 voters to the government payrolls? What effect would it have on the wages now paid these employees?

The natural answer to the first question will be that civil service regulations will secure men fitted for the various services without regard to their politics. Granting that it will do so, it still does not meet the situation fully. While government department heads have no power of appointment, except as to a comparatively few minor officials, they do have the **power of promotion and transfer** of all employees in their departments. Further, it is not safe nor desirable that this power be taken away from them, as the service would become hopelessly inefficient if no power of disciplining or rewarding employees was in the hands of those responsible for the results of departmental operation.

The heads of the various government departments are chosen for political reasons, not by promotions from the ranks of departmental employees. The men selected for these important and responsible positions have rarely had any previous special training in matters pertaining to these departments. It is too much to ask that men appointed on political grounds should wholly disregard political considerations in exercising their disciplinary power.

The average man, whether employed by a government or by an individual, may be relied upon to consider his own interest first; it would be difficult to maintain himself in business life if he failed to do so. This means that a government employee will make his politics square with his business interest. In this fact lies the danger of increasing the number of government employees unduly.

With so large a number of employees under direct government pay and control, it is quite probable that Congress would enact legislation forbidding associations of government employees. That

would not cure the evil, for legal prohibition can not prevent any considerable body of our citizens from acting politically in their common interest, even if there be no formal union recognizing such interest.

It is not necessary that all of the employees act together politically to make them dangerous, nor is it probable that they would do so. But if only 20% of them so acted—one man in five—it would give a party in power so great an advantage that the difficulties of wresting control from it would be very great indeed.

In the last election the popular majority was less than 500,000 votes and in previous elections it has been less than 100,000. Under these conditions, adding 2,600,000 voters to government payrolls would certainly be a very dangerous proceeding in that it would jeopardize representative government.

Previous experience in Germany, Belgium, Austria-Hungary, Switzerland and other countries shows that the change from private to government ownership has increased the number of employees required to perform the same amount of work. It has generally resulted in "overofficializing" the organization also. The inevitable result of this increase in force must be an increase in the rates charged for freight and passenger service or making up the deficit by some form of general taxation.

The effect on wages would probably be that of increasing them. With the balance of political power in the hands of public utility employees it would be difficult for department heads, appointed on political grounds, to resist their demands effectively even when such demands were unreasonable from the standpoint of the public. The labor situation is a most difficult one under present conditions; it will be almost impossible if political power in concentrated form is added to the present power of railroad labor.

The experience of France some years ago and that of Victoria, Australia, in 1903, indicates forcibly that such dangers are real, not imaginary.

Effect of Government Ownership on Employees Individually.

How would the change from private to government administration affect the employees individually, as to promotion, pensions and personal injuries?

At the present time, practically every one of our large railroad systems is administered by men who have come up from the ranks of railroad employees. How many of our Postmaster Generals have been appointed from the ranks of postoffice employees? All of the positions in this government department of any great importance are filled by political appointment. On the contrary, the **self-interest** of private owners demands that ability, not pull, be the qualification for important railroad positions. There is always some small railroad politics on every railroad system, but men of even ordinary ability may push that aside. This does not apply in government service, the limits to which an employee may advance, through good service, being sharply defined by the political appointments.

Railroads have very generally provided for pensioning superannuated and disabled employes. The government does not pension any of its civil industrial employees. We have heard much of Congressional sympathy for civil employees who have grown old in government service and are unable to fill the requirements of their positions but the sympathy has never found expression in effective legislation.

A citizen of the United States can not sue the government, however seriously he may be injured.

A railroad employee of government, injured in service from whatever cause, would have no recourse even though he were totally disabled through no fault of his own. Without any rights, he would have to throw himself on the mercy of officials.

Civil service employees are required to take frequent examinations subsequent to entering the service, such tests being regarded as indispensable to the maintenance of efficiency. A failure in any one of these may mean dismissal from the service. A railroad employee dismissed from government service would be compelled to learn a new business, as there would be no other railroad employer to whom he might apply for a position.

While some of these conditions might and probably would be met by legislation, government ownership is not inviting from the standpoint of the present railroad employee as an individual.

Railroad Organization Under Government Ownership.

Where would we find a man to direct 250,000 miles of railroad? The total number of railroad employees is about 1,800,000, which is about four times the present number of civil employees of the government. The total annual revenues of the federal government are approximately one and one-half billion dollars, of the railroads over three billion dollars. Congress appropriates for government purposes about one and a half billion dollars annually, the administrators of the various railroads about two and a half billion dollars for expenses incident to conducting transportation and maintaining railroad property and equipment. -

The Prussian-Hessian system, the largest system of state owned railroads in Germany, comprises less

than 24,000 miles*; the Russian **state owned railroads**, including its Asiatic system, had a total mileage of 29,025. The railroads in the two states of Illinois and Texas alone have a total mileage of 28,962, a greater mileage than that of the largest system of Germany and practically the same as the state owned system of European and Asiatic Russia.

The largest system ever operated by one organization in this country was the one known as the Harriman lines, which comprised approximately 21,000 miles of railroad. A member of one of our largest financial institutions, in testifying before a government investigating committee, stated that there was no great obstacle in the way of adding other railroads to the Harriman system, so far as financing was concerned, but he considered the mileage of that system the limit which any man could operate efficiently, however great his powers of administration. Even to the initiated the organization chart of the system was a most impressive document, showing seven Presidents reporting to the Director of Operation.

The Atchison, Topeka & Santa Fe system of about 11,500 miles is under the direction of Mr. E. P. Ripley. He is both the actual and nominal head not only of the parent system, but of all the constituent roads except one 400-mile system. His is considered a man's size job by those who are competent to judge. Between the terminals at Chicago and San Francisco the distance is 2,573 miles, a greater distance between terminals than is covered by any other operating organization in the country. It has most important terminals on the Gulf of Mexico and at many intermediate points.

*Statistics for 1913.

The Pennsylvania and the New York Central systems, with their very dense traffic, comprise about 12,000 and 13,500 miles of line respectively. The distance between their terminals at the Atlantic and the Mississippi River is approximately 1,050 miles. In the operating organization of the Pennsylvania system there are Presidents of such subsidiary lines as the Vandalia, Grand Rapids & Indiana and Long Island who report to the President of the system.

The reader is cautioned to distinguish between the **operating organization** of a railroad system and the **alliances** existing between various systems for financing and traffic interchange purposes. The following table shows, very approximately, the mileage of various allied interests—using the popular names for the various alliances:

Union-Southern Pacific	35,500	Miles
Morgan	30,900	"
Hill	28,000	"
Vanderbilt	23,700	"
Gould (formerly)	22,400	"
Pennsylvania R. R.	13,800	"
New Haven	7,100	"

In these alliances, some of the constituent lines are definitely controlled, some are financially affiliated, many are indefinitely allied. Included in the mileage of the Vanderbilt lines are the New York Central system, aggregating more than 13,500 miles, and the Chicago & Northwestern, with more than 10,000 miles. The alliance between these two systems relates to financial matters and traffic arrangements; the **operating organizations** of the Chicago & Northwestern and the New York Central lines are as distinct as the New York Central is from the Pennsylvania system.

The Union-Southern Pacific interests have large *holdings* of Baltimore & Ohio securities, but the op-

erating organizations of the western lines have no more connection with the Baltimore & Ohio than with the Hill roads. The San Pedro, Los Angeles & Salt Lake, which is included in the Union-Southern Pacific alliance, is held jointly with other interests.

Financial combinations and arrangements for routing traffic may be carried to any extent desired, but our experience shows that there is a definite limit to the size of the system which can be administered efficiently by any one operating organization. Evidently the interests just named would extend the scope of operating organizations to cover the systems which are allied for financial and traffic purposes if it were possible to effect operating economies by doing so.

Great as these systems are, they are pigmies compared with a system formed by consolidating 250,000 miles of railroad, which is about 39% of the total mileage of the world. There is little doubt that some system of organization for administering such an enormous mileage could be finally devised, if vital national needs required it, but it would be an unprecedented undertaking and require many years of experimenting to make it a workable, smooth-running machine.

On what basis should the division of authority be made, state, territorial or some other basis? Where would we find the men of right caliber to officer the organization? Many of the present officials could not work successfully under a government regime. Their whole training, in fact the very characteristics which have brought them to their present positions of authority preclude their fitting into a government organization as we now understand that term. Our experience at Panama proves that.

But if the experienced executives can not be retained, where are we to find the men to replace them? Evidently it must be from the ranks of that large class of men who are willing to serve the government, though lacking previous experience or business qualifications. Under our system of government, men would be appointed to these executive positions just as they are now appointed to the heads of government departments.

Under such administration will action in regard to the construction of new lines and the improvement of existing lines be based on economic grounds and business necessities or will political considerations influence the action? There are thousands of miles of railroads to be constructed and hundreds of millions of dollars to be spent on improvement of existing facilities. The experiences of Canada and Australia are not reassuring.

Martin A. Knapp was a member of the Interstate Commerce Commission for many years and through that connection obtained an intimate knowledge of railroad affairs. His opinions have always been regarded as authoritative and are highly respected by the American public familiar with them. In 1902, in speaking of the difficulties involved in direct government operation of railroads, he said:

"For the government of the United States to acquire the 200,000 miles of railways already constructed (the total mileage at that date), undertake to conduct their vast operations by direct agency and to extend their service with needful rapidity, is a project of such colossal import as to incline us to place it quite outside the range of probability."

The question of organization under government ownership is not a mere detail, it is one of tremendous importance that we must be able to answer

before we can decide intelligently whether government ownership can even be considered.

Regulation Under Government Ownership.

Under government ownership we must regulate railroad rates, insure the safety of the public and prevent discriminations, just as we now do. Conditions at the present time are not ideal, but the arguments for or against any proposal submitted for the consideration of the Federal Commission are based on business and economic grounds. There is practically no effective political pressure brought to bear on the Commission. As heretofore stated, the work thrust upon it under present conditions is tremendous. Under government ownership the number of problems presented to it for solution would be multiplied many times, through applying political pressure in the consideration of business questions.

The steel, packing-house, agricultural, labor and every other big interest in the country would each feel called upon to protect itself against the political log-rolling of other interests. The same suspicion of political activity would exist between competing cities, industrial districts, states and the different territorial divisions of the country. If any one of these interests or localities were **only suspected** of using political pressure in regard to regulatory practices it would be the signal for the application of political pressure from all sources as a matter of self-defense.

We have fought more over the tariff in this country than over any other single subject. The contest has been carried on principally by the interests and the localities just mentioned. It has been the principal issue between contending political parties for many years. The total revenues of the government

under the highest tariff have been little more than 300 million dollars annually. The railroad revenue is more than 3,000 millions annually, or ten times the tariff revenue. If the making of a tariff schedule on imports has heretofore debauched our politics, what will the making of a schedule of rates for transporting our domestic commerce—which is many times greater than foreign commerce—do to our politics.

Politics has affected adversely the railroad regulation of the Canadians, Germans, French, Austrians, Italians, Australians and no doubt that of other people. Our nation is cosmopolitan, many of our people having come from these countries. They retain many of the characteristics of their mother countries. The evils appear in countries governed by constitutional monarchies, absolute monarchies and in republics. What reason have we to believe that our experience will differ materially from theirs. There can be no question that such evils do exist and that they affect adversely the public interest in these countries, for their own leaders and officials have stated without qualification that they do.

Effect of Government Ownership on the States.

How will government ownership affect the several states? First, it will deprive them of 140 million dollars a year, which they now receive in taxes and second, it will take from them all powers of railroad regulation. The effect on the revenue of any particular state is shown in the table in Appendix—B.

Comparing the interest of the states under private ownership with national regulation on the one hand, and government ownership on the other, the states will lose their power of regulation under

either plan and their taxes, in addition, under the government ownership plan. This would seem to indicate that government ownership is inimical to the financial interest of the states.

Effect of Government Ownership on Shippers and the Public.

How would government ownership affect the shippers who come into direct contact with railroads in their every day business?

Some years ago there was a very general complaint against the railroads on account of delay in adjusting claims of shippers and passengers for loss and damage to freight and baggage. The conditions, while not ideal, have improved so much that they are now very generally considered satisfactory. Under government ownership, the red tape of government methods would make redress so difficult, through delays and official obstruction, that most shippers would seldom attempt to obtain it, their only recourse being to add a percentage to their selling prices to cover such losses—much as they do for insolvent debtors.

Government rules, from necessity, are rigid and applicable to general conditions, while those on individual railroad systems may be comparatively flexible and adapted to conditions existing on particular systems. Self-interest, which compels railroads to look after such details, would be lacking in government operation.

The same conditions would apply in the matter of presenting the wishes of various communities in regard to the adjustment of freight and passenger train schedules. Under existing conditions such schedules may be adjusted to meet the wishes of the various communities with comparative ease;

under government officials such adjustments would involve infinitely greater effort on the part of the public.

Definite Conclusions as to Government Ownership.

Summarizing this discussion briefly, we may say in regard to the plan providing for government ownership of our railroads:

The motives which have been responsible for its adoption in other countries are lacking in the United States.

It will increase the rates charged for transportation or will result in deficits from operation, which must be paid by taxation of general property.

It will create a serious menace to our representative form of government.

It will aggravate the differences existing between railroad administration and labor.

It will affect the social condition of railroad employees adversely.

It will involve the solution of the biggest problem in administrative organization ever presented to any country and in consequence require a period of experimentation extended over many years. The "trying out" of various plans will necessarily be expensive.

It will introduce political considerations into matters pertaining to the construction of new railroads and the improvement of existing roads.

It will increase the amount and complicate railroad regulation by applying political pressure to the solution of business questions—replacing business and economic considerations on which regulation is now based.

It will be inimical to state interests for the reason that in addition to taking away the power of

railroad regulation, it will deprive the states of 140 million dollars in revenues which they now receive annually through taxation of railroads. (The states lose their power of regulation under both the government ownership plan and the plan proposed in the preceding chapter.)

It will be inimical to the interest of shippers on account of difficulty in obtaining redress for loss and damage of freight. It will increase the difficulty of obtaining readjustment of train schedules and other matters required to meet local or peculiar needs of the general public.

Partisan Claims of Benefits Attending Government Ownership.

Let us test some of the claims of the partisans of government ownership as they have appeared in the public prints. They claim that their plan will accomplish the following results:

Eliminate fraud in financing railroads. This may be accomplished by national incorporation of railroads and supervision of the issue of securities by Federal Commissions.

Take what they describe as the most gigantic taxing power in the world from the railroads. If the payment of charges for transportation is in fact taxation, it is now in the hands of the Interstate Commerce Commission and the regulating commissions of the various states—not in the hands of the railroads—for the Commissions regulate the rate of this form of taxation to any extent they desire short of actual confiscation of the property. If a Federal Commission, under government ownership, reduced rates to the extent that net earnings were less than a fair return on the value of the property

used, the public would pay the deficit in some other form of taxation. That is, general property would be taxed for a service rendered to commerce.

Wipe out preferential rates. The government has as much power now to prevent discrimination in rates as if it owned the railroads. The problem of eliminating preferential rates is the same under government as under private ownership.

Eliminate railroads from politics. It has not done so in any country owning and operating its railroads. It has in fact involved them more deeply in politics. The experience of Canada, Germany, France, Italy and Australia, as stated by their own officials and authorities, indicates this clearly. The early experience of Pennsylvania, Missouri and Georgia, in our own country, substantiates the foreign evidence.

Give labor better wages and steadier employment. This would happen as to the better wages, but it is difficult to understand how wages may be raised and rates reduced at the same time, as they claim rate reduction as one of the advantages of their plan. If labor had steadier employment than it now has it would have to "loaf" part of the time at public expense or be less efficient in performing its work.

Will make operation safer for employees. The Interstate Commerce Commission now has ample power to compel the adoption of any safety appliance it approves and it is constantly investigating means of making operation safer for employees. It could accomplish no more under any plan. Evidently this and the preceding claim are made with the intent of securing the support of railway labor for the plan. They can not be intended seriously.

Co-ordinate railroad and water transportation along natural lines. The Interstate Commerce Commission has the power, and has exercised it on many

occasions, to force railroads to join water transportation companies in making through rates lower by the rail and water lines than by the all-rail lines. It has in addition forced the railroads to dispose of their holdings in water transportation facilities. Government ownership could not invest any greater power in the regulating authority than this.

End war against waterway improvements. As already stated, if such a "war" exists it has been ineffectual as the public has always been able to build such improvements as it deemed advisable. They cite the low rates prevailing on water-borne coal traffic in Germany as being particularly low. As a matter of fact, we now move coal on the Ohio and Mississippi Rivers at the lowest rates in the world, viz., 0.68 mills per ton mile. The government engineers estimate that when the improvements in the Ohio River are completed the cost will be 0.4 mills per ton mile.

It will be noted that when the improvement of waterways promises a fair return to the public for its expenditure, as it does in the case of the Ohio River, the public have been able to obtain the appropriation necessary to pay for such improvement.

Furnish safe investment for citizens of the United States. The proposed plan for government guarantee of interest will accomplish the same purpose. It will also furnish a valuable check on the efficiency of operation and the fairness of regulation of railroads, which the government ownership plan will not provide.

How Government Ownership Is To Better and Cheapen Transportation.

The partisans of government ownership claim that transportation will be better and cheaper under

their plan than under existing conditions, on the following grounds:

Government can borrow money at a lower rate of interest than railroads. This is true. They also claim that the annual saving at 3% will be 414 million and at 4%, 300 million. The same saving may be effected by government guarantee of interest on railroad issues. The plan for effecting this has been explained in detail in the preceding chapter.

Greater efficiency under government ownership. For some years every President, irrespective of party, has urged on Congress the necessity for reforms in the conduct of government business, stating that the existing system was grossly inefficient. That each succeeding President makes the same appeal is proof that the gross inefficiency still persists. It is highly improbable that if government is inefficient with 469,000 civil employees it would suddenly become efficient by adding 2,600,000 employees to its pay-rolls.

Franklin K. Lane, now Secretary of the Interior, was for many years one of the most highly respected members of the Interstate Commerce Commission. He has never been accused of partiality toward railroads, even by their bitterest enemies. In 1912 he said, in regard to government operation of railroads: "No one who has had experience in government affairs would be bold enough to say that the government of the United States could now operate the 250,000 miles of railway with as much satisfaction to the people as the railroads themselves are now being administered."

Avoid duplications of expense caused by competition between railroads in the matter of service. As heretofore pointed out, this may be done by allowing

railroads to pool their traffic. It only involves the repeal of the Sherman Anti-Trust law in its application to railroads.

Save rebates to industrial lines. Unless the government purchased such lines, it would have to pay for their use just as the railroads do at the present time. The courts would not allow the government to confiscate them. The Interstate Commerce Commission has the power, and has always exercised it, to prevent improper payment to industries for the use of their tracks when the facts sustain the charge that such payments are improper.

Complaints that railroads grant rebates to industries, through undue allowances for the use of their industrial tracks, originate usually with shippers who are not so favorably situated as the industry owning the facilities in question. The Federal Commission has been particularly alert in such matters and has afforded complaining shippers ample opportunity to substantiate their complaints. In most cases investigation has shown the allowances to be fair and in all cases the Commission has enforced reductions in allowances when they have been proven to be unfair.

Save the profits that the railroads now make on mail and express. The railroads now receive less for carrying mail than the service costs them. Within eighteen months the Interstate Commerce Commission—after a thorough investigation—has allowed express companies to increase their rates to avoid confiscation of their property.

Save excessive payments made by railroads for the use of Pullman and refrigerator cars. The Interstate Commerce Commission at the present time has sufficient power to regulate such payments and correct any abuses that can be proven to exist.

Reduce overhead charges enormously. Such a claim has no foundation in fact, as there is no previous experience on which to base it. As heretofore noted, an organization competent to administer 250,000 miles of railroad has never existed. Perfecting it will require years of experimenting, which will certainly be expensive. There are isolated cases in which economies may be effected in administration by combinations of railroads, such as the one noted in connection with the N. Y., C. & St. L. R. R. and the New York Central system. In such instances the repeal of the Anti-Trust law is all that is required.

The present New York Central System represents 186 predecessor companies. It does not follow that because the consolidation of these roads into one system, aggregating several thousand miles of line, has effected large economies in cost of operation, that similar additional economies might be effected by consolidating 250,000 miles of line into one system.

A railroad Division Superintendent can take care of a certain number of miles of railroad, depending on the density of traffic carried over it. There are definite limitations to the amount of railroad operation that he can supervise efficiently. A General Superintendent can look after a certain number of Division Superintendents and the number is as definitely fixed in his case as the mileage is in that of the Division Superintendent. A General Manager, with the assistance of his General Superintendents, can supervise efficiently, the operation of a certain mileage of railroad, depending on its traffic density and other conditions surrounding it; if his supervision is extended over a greater mileage it is less *efficient*.

That is, in the Operating department of a railroad, there are definite limitations to the amount of work which any particular official may supervise efficiently. On a system with maximum traffic density, such as the Pennsylvania, the mileage coming under the supervision of the officers mentioned will be less than on some of the western systems whose traffic density is not so great. The actual work of the officers in each instance will, generally speaking, be the same.

The same is true as to the Traffic, Engineering, Mechanical, Accounting, Legal and all other departments of railroad work. There are very few sinecures on American railroad systems of today. Their officers are certainly as fully employed as those of any other class of corporations in the country. It is difficult to conceive of their performing more, under any conditions, than they now do.

A very large system organization might eliminate a few staff officers, such as Mechanical Engineers responsible for design of motive power and equipment; Consulting Engineers responsible for engineering standards and other officers of a like character, but the saving would be so small on a large system that it would probably be expressed in ten-thousandths of one per cent of total operating expense. There are certainly no administration economies of great amount that could be effected through further consolidation of our larger systems.

Government could save the profits now made by the railroads through the use of larger locomotives and cars. The railroads, in fairness, should be allowed their portion of any benefits accruing from the improvements they have made in motive power and equipment, the public of course participating therein as well. For the government to take all of the benefits to be derived from improvements initiated

by the railroads is manifestly unfair—dishonest. As a matter of practical fact, increases in wages of employees have exceeded in amount all of the economies the railroads have been able to effect through the use of improved equipment.

General Statements of Partisans of Government Ownership.

The partisans of government ownership have made many general statements such as the following:

It is a settled principle that a private monopoly is intolerable and ownership should rest in the government. The quotation from the book of Prof. Walther Lotz, the German authority on railroad matters, heretofore used, is repeated here in part: "Nationalization is not by any means a solution of the monopoly trouble. **Monopoly remains monopoly even if it is managed by officials.** * * * The state is only the national organ of erring men who are influenced by their virtues, their faults, their interests and their passions. And these influences are all brought to bear quite as much when the state does the managing as when private persons do it. * * * "This is the reason against nationalizing the railroads in the United States." This sounds reasonable enough and has the advantage of being based on an expert analysis of conditions existing many years.

The German system, being under one authority, insures uniform management. As heretofore stated, the German system is not national. There are several systems of roads owned by the various states comprising the German empire. Each has its own management. The only bond between them is a constitutional provision that they be operated in the

general interest of the empire. The provisions of our Constitution in regard to interstate commerce and the Act to Regulate Commerce requires the same thing. In time of war the railroad system passes under a single military management in Germany, just as ours would do in like circumstances. Our government can operate railroads or anything else during a war whenever the national interest demands it. It did so repeatedly during the Civil War.

The railroads of every country in the world except the United States and England are under government ownership. An authoritative summary of the railways of the world is given in the May-June, 1915, issue of the "Archiv fur Eisenbahnwesen."* The table is shown in Appendix—A for the benefit of students of government ownership.

The summary by continents shows:

	State Railways	Private Railways	Total
Europe	115,181	99,487	214,668
America	27,998	325,468	356,466
Asia	43,938	23,112	67,050
Africa	16,431	11,041	27,472
Australia	20,359	1,600	21,959
Total.....	223,907	460,708	687,615

The total length of the privately owned railroad systems of the United States is more than 30,000 miles greater than the total mileage of all government owned railroads in the world. Only 32.7% of the world's total mileage is government owned. Only 7 states and colonies rely wholly on govern-

*The table appears in the 1915 issue of the "Railway Library," which is prepared by Mr. Slason Thompson, Director of the Bureau of Railway News and Statistics, Railway Exchange, Chicago.

ment railroads; 26 rely wholly on private railroads. Of 75 nations and colonies, 42 have a majority of privately owned mileage and 33 have a majority of government owned mileage. In Europe alone, government ownership mileage is greater in 11 countries, private ownership mileage is greater in 10 countries; a little less than 54% of its total mileage is government owned. Deducting the mileage of the United States and Great Britain from the total world's mileage, only 55% of the balance is government owned and 45% is privately owned.

The statistics are the best available and serve to show the fallacy of the claim of preponderance of world opinion in favor of government ownership. But even if they did not do so, the previous discussion shows conclusively that the conditions responsible for government ownership in foreign countries are lacking in the United States. No proper conclusion may be drawn from a comparison of two systems operating under dissimilar conditions.

No railroad once owned by government has ever been returned to private ownership. Experience in this country disproves this statement. Pennsylvania, Massachusetts, North Carolina, Georgia, and Missouri have constructed and operated lines, all of which have passed either into private ownership completely or have come under private operation through long term lease. Russia's policy has changed from private to government ownership and back again on several occasions. At the present time its policy is that of building strategic lines under government ownership and encouraging the building of commercial lines under private ownership.

The fact that railroads administered under the supervision of the court during receivership are more efficiently managed than in the period prior to the receivership, is proof that public ownership would

be more efficient. In nearly all cases the same officials who were at the head of the railroad prior to the receivership remain as officers during the receivership and subsequent to it. The only change usually is in the title, the former President becoming the Receiver, while the road is in the hands of the court, and becoming President again when its financial affairs have been adjusted. It is not reasonable to suppose that the mere changing of his title increases the efficiency of the organization and the chief executive of the railroad.

Receiverships are caused either by dissensions among stockholders or the inability of a railroad to meet the interest on its bonded debt. The court takes charge of the road so that the interests of all parties may be protected during the adjustment of the differences between various stockholders or until some plan of financing has been agreed upon which is acceptable to the court. During this period of adjustment, the court very properly requires that the expenditures be confined to the lowest minimum compatible with public safety and the maintenance of freight and passenger service and, in consequence, improvements and extensions which would be made during normal conditions are deferred during the period of readjustment. This is the explanation of the supposed increase in efficiency.

It has been suggested that the government purchase a dozen of the great systems of the country at a cost not to exceed three billion dollars and that control of these roads would give virtual control of the entire railroad business of the country. If the government bought the dozen roads and they were subject to the same regulations as applied to private roads—and in justice they should be—the rates and practices would remain the same under government as under private ownership, as a fair regulating

commission would not discriminate on the basis of ownership. This proposal really implies that the government should use its ownership of these roads as a club over the private roads; that it should reduce rates so that the business of the private roads would become unprofitable and that the government would then be able to buy them at a lower price than if it bought them all at the beginning.

It is hardly necessary to say that this would be an unwarranted abuse of government power and most Americans would regard it as sharp practice, tricky and dishonest, accomplishing by indirection the confiscation of property which the Constitution specifically forbids. Men who propose such dishonest practices are not safe leaders and it is a reasonable assumption that if they treated the owners of private railroads unfairly in acquiring their property they could not be expected to treat the public honestly and fairly after it had been so acquired.

Fundamental Principles Involved in Government Ownership.

Comparing private ownership with government ownership on very broad lines, two diametrically opposed general policies of government must be considered, viz., paternalistic and individualistic. The latter policy is based on the general proposition that all things that can be safely left to the initiative of individuals or groups of individuals are better done by them than by the government. The paternal policy is based on the general proposition that government—being more powerful than groups of individuals acting together—should perform all things affecting the interest of the public that it is possible for it to undertake.

Paternalism concentrates vast powers in the hands of the few men who are charged directly with the administration of the affairs of government, leaving the least possible minimum to individual initiative. Individualism distributes authority as widely as possible.

Our government is perhaps more individualistic in shaping its general policy than any other in the world; heretofore government has not attempted to regulate us so long as we have respected the rights and liberties of others. The German government is one of the most paternalistic in its general policies; it regulates German life in minutest detail. While we recognize that there are some defects in our present system of government, we are very generally agreed that we are happier and more progressive as a nation than any other in the world. Other nations may not subscribe to our opinion entirely, but that is the consensus of American opinion, particularly at the present time.

The late Mr. James J. Hill, in an address at Syracuse, N. Y., expressed the opinion of the majority of American business men on paternalism in two striking sentences: "Paternalism and extravagance have lived in conjugal union since governments began. No decree of divorce can ever be pronounced between them and their offspring, inefficiency, is the perpetual disturber of wholesome business life."

When we adopt government ownership of railroads, we depart abruptly from that principle upon which our government, our business and our social relations are based. In doing this we make a confession in the strongest form possible that our principle of government is wrong, at least in its application to the business of transportation. But if it is wrong in transportation, which is an indispensable

part of all business, may it not be wrong when applied to all of our business? Should we not then, while investigating the merits of paternalism as applied to railroad transportation, investigate its application to all producing business?

If we base our railroad policy on a paternalistic principle and our general business policy on an individualistic principle, our policy as a whole will be inconsistent—it will be neither fish, flesh nor fowl and involve two principles of government directly opposed to each other. Time may develop the fact that on the whole a paternal policy will contribute more to national happiness and prosperity than a policy based on individual initiative. The writer while admitting ignorance of the future, is willing to express his disbelief in the probability of our ever arriving at such a conclusion. He insists, however, that the policy, whichever is selected, be consistent at all times. Crossing alien principles—paternalism and individual initiative—will beget a mongrel general policy.

APPENDIX A **World's Railroads State-Owned and Total Mileages.** **Year 1913****

EUROPE

Countries.	Mileage in 1913—		Ml. of line. per 100 sq. miles.	Inhab. per mi. of line.
	State railways.	Total railways.		
Germany	36,538	39,513	19.0	1,698
Austria-Hungary (including Bosnia and Herzegovina)....	23,391	23,643	10.9	1,792
Great Britain and Ireland.....		23,385	19.3	1,943
France	5,597	31,737	15.3	1,241
Russia in Europe (including Finland, 2,329 miles).....	24,509	33,562	1.9	3,360
Italy.....	9,070	10,933	9.8	3,162
Belgium.....	2,699	5,465	43.1	1,356
Luxemburg.....	123	326	32.5	757
Netherlands.....	1,111	2,019	15.3	2,380
Switzerland.....	1,693	3,015	13.3	1,177
Spain.....		9,517	5.0	1,967
Portugal.....	712	1,849	5.2	2,932
Denmark.....	1,215	2,333	15.3	1,105
Norway.....	1,631	1,917	1.6	1,222
Sweden.....	2,353	3,984	5.2	609
Servia.....	633	633	3.4	4,480
Roumania.....	2,200	2,333	4.7	2,932
Greece.....		993	4.0	2,644
Bulgaria.....	1,197	1,197	3.2	3,584
Turkey in Europe.....		1,236	1.9	5,040
Malta, Jersey, Isle of Man....		63	16.1	5,376
Total for Europe, 1913.....	115,181	214,663	5.6	2,042

AMERICA

Canada.....	1,763	29,233	0.8	265
United States of America (inclusive of Alaska, 653 miles).		254,769	7.1	381
Newfoundland		763	1.3	309
Mexico.....	12,324	15,905	2.1	922
Central America.....	353	2,001	....	....
Greater Antilles.....	149	3,393	....	....
Lesser Antilles.....		335	....	....
Colombia.....	110	620	0.13	7,331
Venezuela.....	63	632	0.16	3,340
British Guiana.....		104	0.11	2,329
Dutch Guiana.....		37	....	....
Ecuador		650	0.64	2,150
Peru.....	1,050	1,715	0.32	2,731
Bolivia.....		1,499	0.32	1,507
Brazil.....	6,712	15,491	0.48	1,613
Paraguay.....		231	0.16	2,734
Uruguay.....		1,636	2.4	637
Chile.....	1,977	3,949	1.3	840
Argentine Republic.....	3,482	20,593	1.9	233
Total for America.....	27,993	353,466	....	....

**From "Archiv für Eisenbahnwesen," May-June, 1915. Reprinted in "Railway Library and Statistics," 1915 edition.

APPENDIX A—Continued

ASIA	Mileage in 1913		Mi. of line per 100 sq. miles.	Inhab. per mi. of line.
	State	Total		
Countries.	railways.	railways.		
Central Russia in Asia, including Siberia and Manchuria..	6,788	9,864	....	.....
China.....	.....	6,109	0.14	53,760
Japan (including Corea).....	4,359	6,811	2.7	9,487
British India.....	29,252	34,572	1.8	8,960
Ceylon.....	.....	602	2.4	6,720
Persia.....	.....	33	0.005	268,800
Asia Minor, Syria, Arabia, including Cyprus	910	3,390	0.48	5,760
Portuguese Indies.....	.....	51	3.5	11,520
Malay Archipelago.....	.....	856	2.6	840
Dutch Indies.....	1,533	1,769	0.8	16,128
Siam.....	596	701	0.32	13,440
Cochin China.....	.....	2,292	....	.....
Total for Asia.....	43,938	67,050	....	.....
AFRICA				
Egypt.....	2,903	3,637	1.0	3,043
Algiers and Tunis.....	1,799	3,957	1.1	1,693
Belgian Congo .....	.....	862	....	.....
South African Union, including Cape Colony, Natal, Central South Africa and Rhodesian railways.	7,829	10,929	....	.....
Colonies—				
German.....	2,589	2,589	....	.....
English.....	1,311	2,350	....	.....
French.....	.....	1,995	....	.....
Italian.....	.....	96	....	.....
Portuguese.....	.....	1,007	....	.....
Total for Africa.....	16,431	27,472	....	.....
AUSTRALIA				
New Zealand.....	2,354	2,333	2.7	354
Victoria.....	3,639	3,664	4.2	347
New South Wales.....	3,922	4,038	1.3	391
South Australia	2,076	2,308	0.16	181
Queensland	4,514	4,807	0.64	138
Tasmania.....	506	699	2.7	266
West Australia.....	2,848	3,422	0.32	133
Hawaii, etc.....	.....	88	1.3	1,241
Total for Australia.....	20,359	21,959	0.64	273
RECAPITULATION				
1. Europe.....	115,181	214,668	5.6	2,042
2. America.....	27,998	353,466	....	.....
3. Asia.....	43,938	67,050	....	.....
4. Africa.....	16,431	27,472
5. Australia.....	20,359	21,959	0.64	273
Total.....	223,907	684,615

APPENDIX B

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State Railroad Taxes Year 1914.

State.	Amount.	Per mile of line.
1 New Jersey	\$ 6,604,781	\$3,068
2 Rhode Island.....	365,252	1,845
3 District of Columbia.....	57,394	1,678
4 Massachusetts.....	3,232,883	1,550
5 New York	10,709,722	1,311
6 Ohio.....	9,235,378	1,032
7 Connecticut.....	1,013,836	1,017
8 Washington	4,860,509	995
9 Pennsylvania,	8,824,383	821
10 Maryland	983,434	732
11 Oregon.....	1,730,265	683
12 Illinois.....	8,097,545	675
13 Indiana.....	4,880,652	670
14 California,	4,925,589	665
15 Idaho	1,738,925	662
16 New Hampshire.....	809,313	649
17 Wisconsin.....	4,387,545	619
18 Kentucky.....	2,188,544	619
19 Minnesota.....	5,396,777	605
20 Virginia.....	2,428,900	579
21 West Virginia.....	1,760,479	557
22 Oklahoma.....	3,391,688	545
23 Utah.....	1,096,726	541
24 Arizona.....	1,133,451	525
25 Michigan	4,316,394	519
26 Vermont	499,224	509
27 Maine,	1,060,336	496
28 Nevada.....	983,927	472
29 Arkansas.....	2,018,598	466
30 Tennessee.....	1,644,120	448
31 Wyoming.....	789,340	448
32 Delaware.....	149,402	446
33 Montana.....	2,119,912	445
34 New Mexico.....	1,276,641	443
35 Mississippi.....	1,702,928	442
36 Nebraska.....	2,594,851	420
37 Kansas.....	3,593,097	396
38 Louisiana.....	1,778,823	381
39 Colorado.....	2,026,619	372
40 Alabama.....	1,755,382	357
41 North Dakota.....	1,782,144	354
42 Iowa.....	3,283,344	337
43 North Carolina.....	1,449,443	336
44 Texas.....	4,382,808	299
45 South Carolina.....	938,990	288
46 Florida.....	1,207,574	281
47 Missouri.....	2,173,382	279
48 Georgia.....	1,820,601	277
49 South Dakota.....	1,061,203	255
Total United States.....	*\$136,263,054	\$579

*Excludes \$4,769,512 assessed by the United States government and other smaller items on Canadian mileage.

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Railroad Valuation and Rates

By

MARK WYMOND

Price \$1.50

Buckram, 340 Pages

WYMOND & CLARK

Rand-McNally Bldg.

Chicago

Translated into the oriental languages by Mr. Yakichi Haga,
of the Japanese Imperial Railways, Tokyo, Japan.

ABSTRACT OF PRESS REVIEWS

American Economic Review, Cambridge, Mass.—This book is the work of an engineer familiar with the promotion, engineering, construction and operation of railroads, as well as with the preparation of rate schedules. * * * Such an honest and clear statement of facts should do much to convince the partisans for the public of the injustice of many of their contentions. * * * Mr. Wymond's work is not a brief for the railroads. It is rather a recapitulation of all of the expenses which the railroads have incurred in creating their properties and of the various factors which must be considered in the preparation of rate schedules. There is nothing of the nature of a legal argument in it, if we except a few quotations from court decisions to support certain contentions. It is a simple, sincere, and direct statement of facts by a man of wide railroad experience, who appears to be convinced of the justice of the claims of the railroads for larger returns and for rates based on value of service and only indirectly on its cost. * * * Mr. Wymond's book contains much that is of definite value to those interested in appraisals of public utility property. Especially to be commended are the earlier chapters dealing with preliminary costs, such as promotion, preliminary engineering and financing.

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